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SAMPLING EVENT REPORT FOR POTENTIAL SOURCE OF CONTAMINATION 47 (PSC47)
PESTICIDE SHOP BUILDING 536 NAS JACKSONVILLE FL
2/1/1999
HARDING LAWSON ASSOCIATES

SAMPLING EVENT REPORT

POTENTIAL SOURCE OF CONTAMINATION 47

PESTICIDE SHOP, BUILDING 536

NAVAL AIR STATION JACKSONVILLE

JACKSONVILLE, FLORIDA

Unit Identification Code: N00207

Contract No.: N62467-89-D-0317/040

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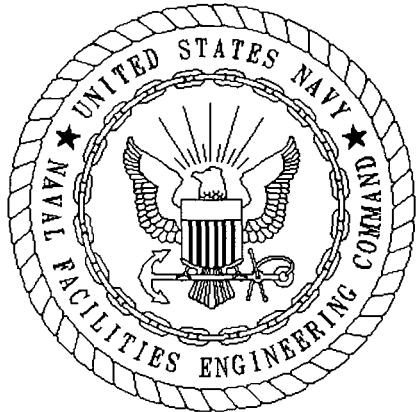
Naval Facilities Engineering Command

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February 1999



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/040 are complete and accurate and comply with all requirements of this contract.

DATE: February 8, 1999

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Task Order Manager

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Project Technical Lead

(DFAR 252.227-7036)

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
BHC	1,2,3,4,5,6-hexachlorocyclohexane
Compuchem	Compuchem Environmental Corporation
DVECC	Disease Vector Ecology and Control Center
EDS	Environmental Data Services
FDEP	Florida Department of Environmental Protection
FRE	focused risk evaluation
GGC	groundwater guidance concentration
HLA	Harding Lawson Associates
IRA	interim remedial action
MCL	maximum contaminant level
MCPA	2-methyl-4-chlorophenoxyacetic acid
MCPP	2-(2-methyl-4-chlorophenoxy)propionic acid
mg/kg	milligrams per kilogram
µg/kg	micrograms per kilogram
µg/l	micrograms per liter
NAS	Naval Air Station
NFESC	Naval Facilities Engineering Service Center
NTU	nephelometric turbidity unit
PARCC	precision, accuracy, representativeness, completeness, and comparability
PSC	potential source of contamination
PCB	polychlorinated biphenyl
QA/QC	quality assurance and quality control
RI/FS	remedial investigation and feasibility study
RRDS	Remedial Response Decision System
SDG	sample delivery group
SSW	site screening workplan
SVOC	semivolatile organic compound
TAL	target analyte list
TCL	target compound list
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION

Harding Lawson Associates (HLA) (formerly ABB Environmental Services [ABB-ES]), under contract to the Department of Navy (Contract No. N62467-89-D-0317, Task Order No. 040) is submitting this Sampling Event Report for Potential Source of Contamination (PSC) 47, Pesticide Shop, Building 536 at Naval Air Station (NAS) Jacksonville, Jacksonville, Florida. PSC 47 is located in the central part of the station, south of Birmingham Avenue and west of Child Street (Figures 1-1 and 1-2). The PSC includes a long narrow building (Building 536), with approximately six working bays, and the pavement surrounding the building. A mowed grassy area surrounds the pavement and is surrounded by a 6-foot-high fence. The entire PSC occupies 1½ acres. The gate is locked after business hours and when the area is unattended. A drainage ditch that lies between the eastern boundary of the Pesticide Shop fence and Child Street runs south toward recreational baseball fields. PSC 47 appears to be flat, but surface water runoff most likely flows east toward the drainage ditch.

This Sampling Event Report summarizes the methods and the results of the field investigation and presents the field and analytical data.

1.1 PURPOSE AND SCOPE. The purpose of the sampling event at PSC 47 was to gather sufficient information to support the next phase of the Remedial Response Decision System (RRDS) process (ABB-ES, 1995). The scope of the sampling event for PSC 47, detailed in the Site Screening Workplan (SSW) (ABB-ES, 1997), included the following:

- Collection of up to 50 surface soil samples. At approximately 25 locations, soil samples were to be collected from 0 to 1 and 1 to 2 feet below land surface.
- Collection of up to two surface water and two sediment samples from the drainage ditch located east of the site between the perimeter fence and Child Street.
- Collection of one sludge sample from each of two soakage pits.
- Installation of two "micro" monitoring wells to collect groundwater samples. The two wells were to be installed, based on the U.S. Geological Survey basewide groundwater flow model, downgradient of the most active portions of the site.
- Laboratory analysis of the soil, sludge, groundwater, surface water, and sediment samples for the U.S. Environmental Protection Agency (USEPA) target compound list (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), TCL pesticides and polychlorinated biphenyls (PCBs), herbicides, and target analyte list (TAL) inorganics.

Fieldwork for this sampling event was conducted between April 9, 1997, and August 13, 1997.

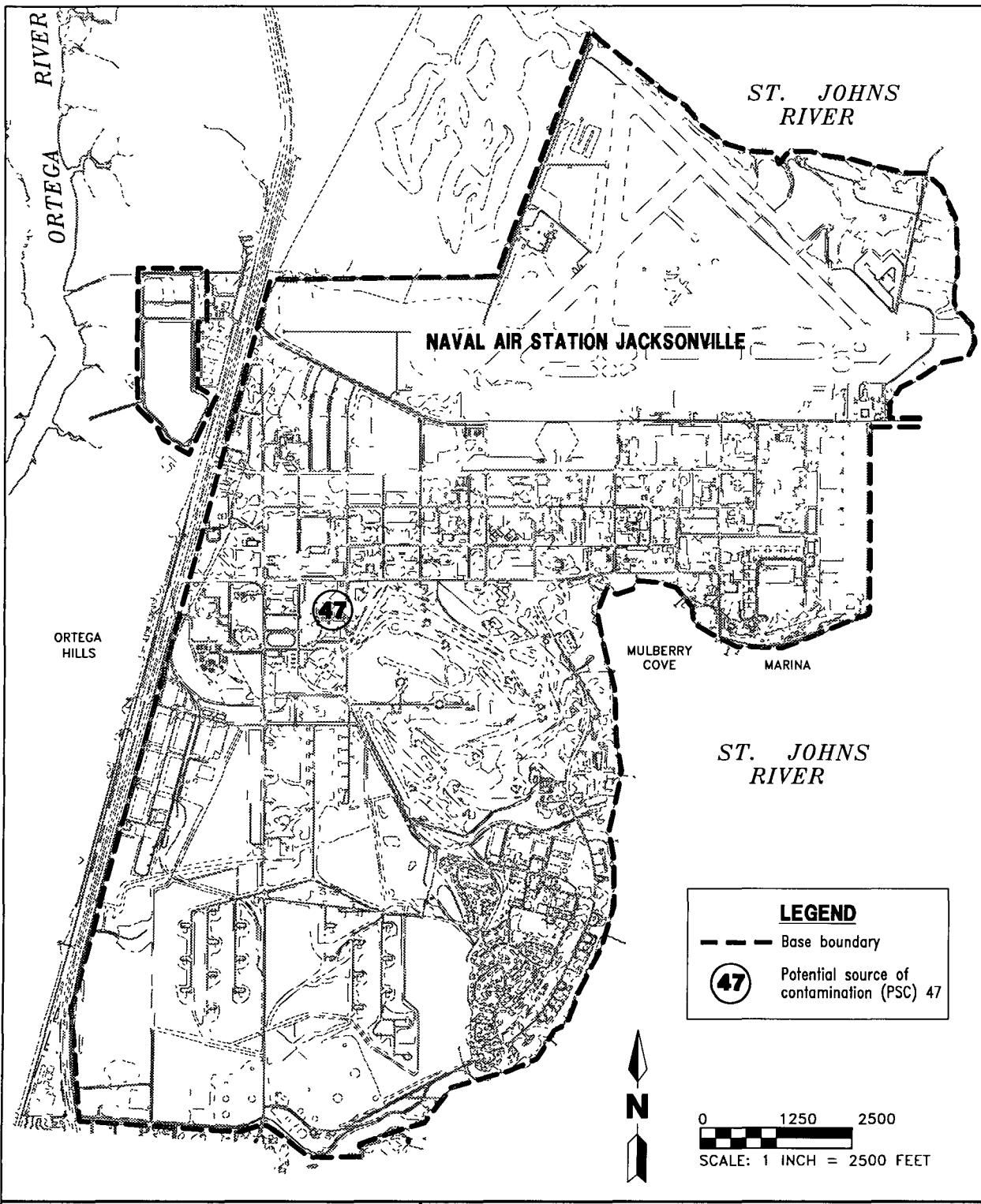


FIGURE 1-1
LOCATION OF PSC 47 AT
NAVAL AIR STATION JACKSONVILLE

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SAMPLING EVENT REPORT
PSC 47



NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

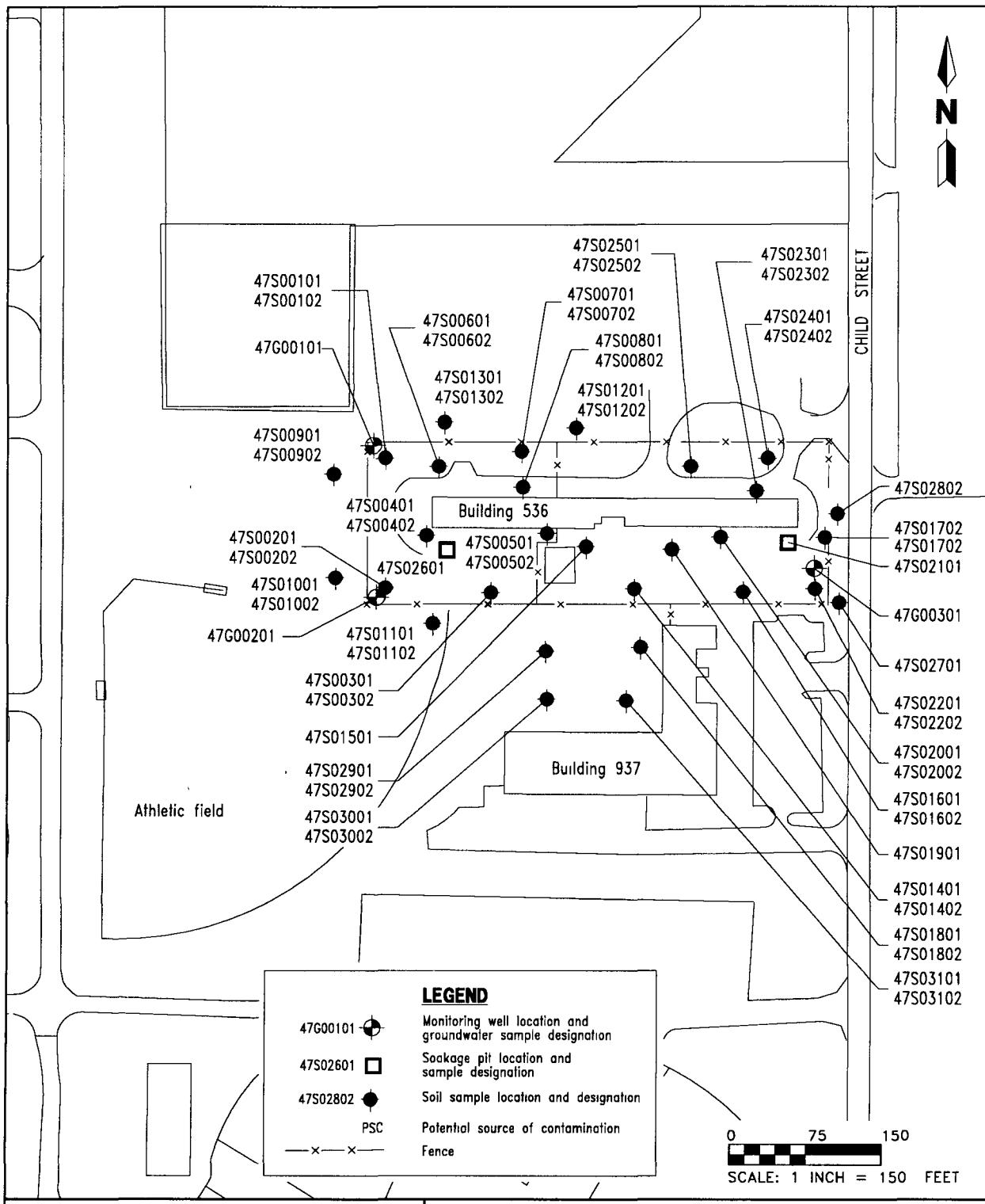
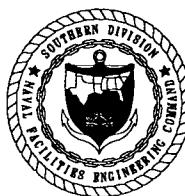


FIGURE 1-2
SAMPLING LOCATIONS AT PSC 47,
PESTICIDE SHOP, BUILDING 536

SAMPLING EVENT REPORT
PSC 47



NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

1.2 SITE DESCRIPTION. The Pesticide Shop was identified as a PSC and added to NAS Jacksonville's Hazardous and Solid Waste Amendment permit in 1993 because past practices included disposal of pesticides into the soil at the PSC (Gartland, 1993).

The Pesticide Shop has occupied its current site since the middle to late 1960s. The site was previously used as an engine test cell facility, and engines were tested within the bays of Building 536. During the 1960s and 1970s, the Disease Vector Ecology and Control Center (DVECC) also used the grounds of the Pesticide Shop as a training site. DVECC is located next to the Pesticide Shop in Building 937. Test slabs of concrete, cinder block, and brick were constructed in the southeast corner of the property as mock building structures, and chlordane was applied to and around the slabs during DVECC training exercises for termite control. Past activities at PSC 47 also included storage of pesticides and herbicides, as well as calibration and testing of pesticide application equipment (Spencer, 1993). Although most equipment was tested in the bays, some testing reportedly took place along the south side of Building 536. Prior to paving bay areas, it is possible that pesticides and herbicides were spilled on the ground.

In April 1989, representatives from DVECC and the Naval Hospital met to discuss the historical inability of the insectary in Building 937 to support mosquito growth. Meeting participants expressed concern about the possibility of significant ground contamination in the immediate area due to the long history of pesticide application training on the grounds of Building 937 and the adjacent Building 536 site (Germann, 1989).

In 1991, approximately 30 rusted 55-gallon drums were removed from the southwest corner of PSC 47. According to waste handlers at NAS Jacksonville, the drums were empty at the time of removal, but had once contained malathion and other pesticides. The lids were off, and some drums had holes. Vegetation grew around the drums prior to removal. The drums were crushed and sent to the U.S. Naval Station Mayport incinerator. No samples were collected in or near the drums during or following the removal (Smith, 1994). An employee at the Pesticide Shop recalled that chlordane was spilled in the northwest corner of the property, but could specify neither the date nor size of the spill (Spencer, 1994).

2.0 SAMPLING APPROACH AND FIELD CHANGES

The work described herein was performed, in general, as presented in Subsection 4.14 of the SSW (ABB-ES, 1997). Exceptions to the proposed methods are described in this section.

The SSW called for collection of 50 soil samples from 25 locations, two sludge samples, two sediment samples, two surface water samples, and two groundwater samples. For this sampling event, 56 surface soil samples were collected from 31 locations, no sediment or surface water samples were collected, and three groundwater samples were collected. Detailed explanations of the changes are provided below.

Two additional soil samples were collected from the area south of the fenced area surrounding Building 536, behind (i.e., northwest of) Building 937 (Figure 1-2). The soil-like sludge material collected from the soakage pits were also identified as soil samples (47S02101 and 47S02601). Because no surface water was encountered in the drainage swale between the Pesticide Shop property and Child Street, the two sediment samples proposed for this location were collected and identified as soil samples (47S02701 and 47S02801). A total of 56 soil samples were collected from PSC 47.

Based on the presence of the dry drainage ditch, which is as much as three feet below the surrounding land surface and is near the southeast corner of the Pesticide Shop boundary, a third "micro" monitoring well was installed in this area. A total of three groundwater samples were collected from PSC 47.

The soil and groundwater samples collected for laboratory analysis were sent by overnight carrier to the subcontract laboratory, Compuchem Environmental Corporation (Compuchem), Cary, North Carolina. Samples were analyzed for TCL VOCs, SVOCs, pesticides/PCBs, herbicides, and TAL inorganic compounds. Not all samples, however, were analyzed for each parameter. A sample tracking log that includes sample and sample delivery group (SDG) identifiers, relevant dates, sample depths, and parameters analyzed is included in Appendix A.

Following laboratory analysis of the soil and groundwater samples, all data were validated in accordance with the Naval Facilities Engineering Service Center (NFESC) Level D protocol. A summary of the validated analytical results is included in Appendix B. A summary of detections in the soil and groundwater analytical results is presented in Appendix C.

3.0 QUALITY ASSURANCE AND QUALITY CONTROL

Field samples and associated quality assurance and quality control (QA/QC) samples were collected and analyzed according to USEPA Contract Laboratory Program and NFESC requirements by an NFESC certified laboratory, CompuChem Laboratories, Cary, North Carolina. The analytical data packages, submitted by SDGs, were independently validated by a subcontract data validation company, Environmental Data Services (EDS), Concord, New Hampshire, in accordance with validation requirements contained in NFESC document, *Navy Installation Restoration Laboratory Quality Assurance Guide*, dated February 1996 (NFESC, 1996). Other documents utilized in the data validation and review include the USEPA's *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, dated February 1994 (USEPA, 1994a) and the USEPA's *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, dated February 1994 (USEPA, 1994b).

A detailed QA/QC evaluation can be found in the EDS report (EDS, 1997), which summarizes the results of the data quality assessment according to the precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters for the entire site screening activity. The EDS report was issued as Appendix B of the SSW. The generated analytical data were found to be acceptable according to the PARCC criteria, with less than 5 percent of the data requiring qualification (primarily estimated "J" qualifier).

4.0 ANALYTICAL RESULTS

4.1 ANALYTICAL RESULTS FOR SURFACE SOIL SAMPLES. Appendix C contains a summary of the parameters detected in surface soil samples collected at PSC 47. The complete validated analytical data are included in Appendix B.

4.1.1 Volatile Organic Compounds Twenty-nine of the 56 surface soil samples were analyzed for VOCs. Ten VOCs were detected in the 29 surface soil samples. Two of the compounds, acetone and methylene chloride, are considered artifacts of laboratory or decontamination procedures. The remaining eight VOCs were detected in only 4 of the 29 samples. All were detected at low levels.

4.1.2 Semivolatile Organic Compounds Forty-seven of the surface soil samples were analyzed for SVOCs. Thirty SVOCs were detected in the 47 surface soil samples analyzed. Two parameters were detected at moderately high levels. Benzo(a)pyrene was detected in five samples at up to 290 micrograms per kilogram ($\mu\text{g}/\text{kg}$), and n-nitroso-di-n-propylamine was detected only in the duplicate of sample 47S02502 at 40 $\mu\text{g}/\text{kg}$. (Because of the method of averaging a non-detected sample with a detected duplicate, the concentration for sample 47S02502 is reported as 107.5 $\mu\text{g}/\text{kg}$.)

4.1.3 Pesticides and Polychlorinated Biphenyls All 56 surface soil samples were analyzed for pesticides and PCBs. Twenty pesticides and PCBs were detected, and 13 of the 20 pesticides/PCBs were detected at significant levels. The most significant levels of the pesticides were aldrin (4,500 $\mu\text{g}/\text{kg}$), α -chlordane (280,000 $\mu\text{g}/\text{kg}$), 1,2,3,4,5,6-hexachlorocyclohexane, α -isomer (commonly referred to as α -BHC) (61,000 $\mu\text{g}/\text{kg}$), β -BHC (23,600 $\mu\text{g}/\text{kg}$), γ -chlordane (310,000 $\mu\text{g}/\text{kg}$), 4,4'-dichlorodiphenyldichloroethane (3,100,000 $\mu\text{g}/\text{kg}$), 4,4'-dichlorodiphenyl-dichloroethene (410,000 $\mu\text{g}/\text{kg}$), 4,4'-dichlorodiphenyltrichloroethane (12,000,000 $\mu\text{g}/\text{kg}$), dieldrin (77,000 $\mu\text{g}/\text{kg}$), heptachlor (12,000 $\mu\text{g}/\text{kg}$), and heptachlor epoxide (4,200 $\mu\text{g}/\text{kg}$) (see Appendix C).

4.1.4 Herbicides Ten herbicides were detected in the 54 soil samples analyzed for that parameter. Dinoerb, 2-methyl-4-chlorophenoxyacetic acid (MCPA), and 2-(2-methyl-4-chlorophenoxy)propionic acid (MCPP) exceeded levels that could be explained simply by the use of herbicides for weed control. MCPA was detected in 36 of 54 samples, ranging from 50 to 4,600,000 $\mu\text{g}/\text{kg}$. The detections of MCPP, found in 32 of 54 samples, ranged from 46 to 320,000 $\mu\text{g}/\text{kg}$. Seven of the highest detections were located south of the Pesticide Shop perimeter fence behind Building 937. The highest concentration of MCPA was from the soil/sediment material (47S02101) collected in the eastern soakage pit (Figure 1-2).

4.1.5 Inorganic Parameters Twenty-two inorganic parameters were identified in 56 surface soil samples. Arsenic and lead were detected at maximum concentration levels of 1,570 milligrams per kilogram (mg/kg) and 2,820 mg/kg, respectively. The highest lead concentration was detected in sample 47S02601, from the western soakage pit, whereas the highest arsenic concentration was detected in sample 47S02101, from the eastern soakage pit.

4.2 ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES. The complete validated analytical data are included in Appendix B. Appendix C presents a summary of the parameters detected in three groundwater samples collected at PSC 47. It should

be noted that while turbidity readings at MW001 stabilized below 5 nephelometric turbidity units (NTUs) very rapidly, prolonged low-flow purging (i.e., 2.5 to 3.0 hours) at MW002 and MW003 were unable to lower the turbidity readings below 31 and 15 NTUs, respectively.

4.2.1 Volatile Organic Compounds VOCs were detected in only one of the three groundwater samples (47G00301) at PSC 47. Of the eight VOCs detected only benzene at 2 micrograms per liter ($\mu\text{g}/\ell$) and trichloroethene at 5 $\mu\text{g}/\ell$ exceeded their Florida groundwater guidance concentrations (GGCs) of 1 $\mu\text{g}/\ell$ and 3 $\mu\text{g}/\ell$, respectively.

4.2.2 Semivolatile Organic Compounds Five SVOCs were detected in one sample (47G00301). Of the five SVOCs only 2,4,5-trichlorophenol at 8 $\mu\text{g}/\ell$ and naphthalene at 7 $\mu\text{g}/\ell$ exceeded their Florida GGCs of 4 $\mu\text{g}/\ell$ and 6.8 $\mu\text{g}/\ell$, respectively.

4.2.3 Pesticides and Polychlorinated Biphenyls Of the 20 compounds detected in the groundwater at PSC 47, 15 were detected above their respective Florida GGCs; 3 of the 15 were detected in MW001, 13 of the 15 were detected in MW002, and 6 of the 15 were detected in MW003. It is probable that some of the detected pesticide concentration levels in MW002 and MW003 are due to the elevated turbidity and do not represent solubilized compounds.

4.2.4 Herbicides Of the nine herbicides detected in the groundwater from the three wells, only MCPA, detected in sample 47G00301 at 2,000 $\mu\text{g}/\ell$, was above the Florida GGC of 1,000 $\mu\text{g}/\ell$.

4.2.5 Inorganic Parameters Twenty-one inorganic parameters were detected in the three groundwater samples analyzed. Only one sample (47G00201) contained substances at levels above the primary drinking water standards. Antimony, detected at 6.3 $\mu\text{g}/\ell$, and arsenic, at 332 $\mu\text{g}/\ell$, exceeded both the Florida GGC and Federal maximum contaminant level (MCL) primary standards of 6 $\mu\text{g}/\ell$ for antimony and 50 $\mu\text{g}/\ell$ for arsenic. Aluminum (a maximum detected concentration of 1,260 $\mu\text{g}/\ell$), iron (18,700 $\mu\text{g}/\ell$) and manganese (194 $\mu\text{g}/\ell$) were detected at concentrations exceeding both their Florida GGC and Federal MCL secondary standards of 200 $\mu\text{g}/\ell$ for aluminum, 300 $\mu\text{g}/\ell$ for iron, and 50 $\mu\text{g}/\ell$ for manganese. Exceedances of secondary standards were observed in the three groundwater samples analyzed and may be related to the suspended solids naturally present in groundwater samples.

5.0 RISK EVALUATION

The purpose of performing focused risk evaluations (FREs) as part of the site screening evaluation is to assist in determining whether or not the existing risk at a PSC (1) supports a no further action decision, (2) indicates the need for an interim remedial action (IRA), or (3) requires additional investigation to make a decision. The documentation of the decision for PSC 47 may be found in the RRDS document for PSC 47 (ABB-ES, 1995).

It was not necessary to conduct an FRE to support a decision to perform an IRA on the surface soil at PSC 47 and to recommend that a remedial investigation and feasibility study (RI/FS) be conducted upon completion of the IRA. As the following table shows, several of the pesticides and herbicides were detected at levels that were orders of magnitude greater than USEPA Region III Risk-Based Concentrations (USEPA, 1997) and Florida Department of Environmental Protection (FDEP) Soil Cleanup Goals (FDEP, 1995). Detection of contaminants at these levels required interim action. After the IRA, an RI/FS should be conducted to further characterize any residual contamination. The following table was compiled to demonstrate the need for an IRA and does not suggest that there are no other contaminants present at PSC 47 at levels that may present a risk to human health or the environment.

Chemical	Maximum Detected Concentration	Region III Industrial RBC	FDEP Industrial SCG
Pesticides and Herbicides ($\mu\text{g}/\text{kg}$)			
4,4'-DDD	3,100,000	24,000	17,000
4,4'-DDE	410,000	17,000	11,000
4,4'-DDT	12,000,000	17,000	12,000
Aldrin	4,500	340	200
Dieldrin	77,000	360	300
Heptachlor	12,000	1,300	500
Heptachlor epoxide	4,200	630	300
α -BHC	61,000	910	600
α -Chlordane	280,000	16,000	3,000
β -BHC	23,600	3,200	2,300
γ -Chlordane	310,000	16,000	3,000
MCPA	4,600,000	1,000,000	800,000

Notes:

- RBC = risk-based concentration
- SCG = soil cleanup goal.
- $\mu\text{g}/\text{kg}$ = micrograms per kilogram.
- DDD = dichlorodiphenyl dichloroethane
- DDE = dichlorodiphenyl dichloroethene.
- DDT = dichlorodiphenyl trichloroethane.
- BHC = benzene hexachloride.
- MCPA = 2-methyl-4-chlorophenoxyacetic acid.

6.0 REFERENCES

- ABB Environmental Services, Inc. (ABB-ES). 1995. *Naval Installation Restoration Program Plan, Naval Air Station Jacksonville, Jacksonville, Florida, Volume 2, Remedial Response Decision System.* Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina.
- ABB-ES. 1997. *Naval Installation Restoration Program Plan, Naval Air Station (NAS) Jacksonville, Jacksonville, Florida, Volume 3, Site Screening Workplan.* Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (June).
- Environmental Data Services, Inc. 1997. *PARCC Criteria Evaluation Report - Final.* Prepared for ABB-ES, Orange Park, Florida (December).
- Florida Department of Environmental Protection. 1995. *Soil Cleanup Goals for Florida.* Division of Waste Management, Tallahassee, Florida (September 29).
- Gartland, Kevin. 1993. Director, Environmental Division, NAS Jacksonville, letter to Joseph Franzmathes, Director, Waste Management Division, U.S. Environmental Protection Agency, Region IV (October 28).
- Germann, Thomas. 1989. Memorandum to Commanding Officer, Naval Environmental Health Center. Subject: Pesticide Contamination in DVECCJAX Building (May 17).
- Naval Facilities Engineering Service Center. 1996. *Navy Installation Restoration Laboratory Quality Assurance Guide.* (February).
- Smith, Vern. 1994. Interview with Andrea Donlon. Wakefield, Massachusetts (April 29).
- Spencer, Gary. 1993. Interview with Lisa Routhier. Orange Park, Florida (May 27).
- Spencer, Gary. 1994. Interview with Andrea Donlon. Wakefield, Massachusetts (April 29).
- United States Environmental Protection Agency (USEPA). 1994a. *Contract Laboratory Program National Functional Guidelines for Organic Data Review.* Washington, D.C. (February).
- USEPA. 1994b. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.* Washington, D.C. (February).
- USEPA. 1997. *USEPA Region III Risk-Based Concentrations.* Philadelphia, Pennsylvania (October 22).

APPENDIX A

OFF-SITE SAMPLE TRACKING LOG

PSC 47
OFFSITE SAMPLE TRACKING LOG
SITE SCREENING, NAS JACKSONVILLE

NOTES:

ABB SDG	ABB-ES Sample Delivery Group (ABB-ES defined group of 20 samples or less collected not more than 14 days of each other)
SAMPLE ID	Sample Identifier (Note If an erroneous identifier was used in the chain-of-custody, that identifier is indicated in the COMMENTS column)
COMMENTS	General comments (see previous note on sample identifiers). Letter code indicates the source analytical database file
UDEPTH, LDEPTH	Depths, upper (UDEPTH) and lower (LDEPTH)
MATRIX	Media Sampled
SAMP DATE	Date of Sample Collection
TAL_MET	Target Analyte List Metals
VOC	Target Compound List Volatile Organics
SVOC	Target Compound List Semivolatile Organics
PESTPCB	Target Compound List Pesticides and Polychlorinated Biphenyls
HERB	Herbicides
DRFL	Date Package Received from Laboratory
TAT	Turnaround Time (days)
DSTV	Date Package Sent to Validators
DRFV	Date Package Received from Validators
E-DATA	Electronic data deliverable (Type)
<input checked="" type="checkbox"/>	Diskette

APPENDIX B

VALIDATED ANALYTICAL RESULTS

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00101	47S00102	47S00201	47S00201D	47S00202	47S00202D	47S00301	47S00302	47S00401
Sampling Date	4/9/97	4/9/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Aroclor-1254	170000 U	720 U	1700000 U	400000 U	180000 U	400000 U	7000 U	170 U	360 U
Aroclor-1260	170000 U	720 U	1700000 U	400000 U	180000 U	400000 U	7000 U	170 U	360 U
beta-BHC	9000 U	37 U	88000 U	3200 J	9400 U	21000 U	270 J	4 J	18 U
delta-BHC	9000 U	37 U	88000 U	21000 U	460 J	21000 U	33 J	89 U	18 U
Dieldrin	17000 U	65 J	170000 U	40000 U	18000 U	40000 U	700 U	17 U	110
Endosulfan I	9000 U	37 U	88000 U	21000 U	9400 U	21000 U	360 U	89 U	18 U
Endosulfan II	17000 U	72 U	170000 U	40000 U	18000 U	40000 U	700 U	17 U	36 U
Endosulfan sulfate	17000 U	72 U	170000 U	40000 U	18000 U	40000 U	700 U	17 U	36 U
Endrin	1100 J	72 U	26000 J	40000 U	1500 J	3200 J	42 J	17 U	36 U
Endrin aldehyde	17000 U	72 U	170000 U	40000 U	18000 U	40000 U	22 J	17 U	36 U
Endrin ketone	17000 U	72 U	170000 U	40000 U	18000 U	40000 U	700 U	2 J	36 U
gamma-BHC (Lindane)	9000 U	37 U	88000 U	21000 U	9400 U	21000 U	10 J	89 U	18 U
gamma-Chlordane	3800 J	51 J	77000 J	37000 J	9200 J	19000 J	3000	180	82
Heptachlor	9000 U	37 U	7500 J	5600 J	2200 J	4900 J	540	15	0.47 J
Heptachlor epoxide	9000 U	37 U	88000 U	21000 U	9400 U	21000 U	360 U	89 U	18 U
Methoxychlor	90000 U	370 U	880000 U	210000 U	94000 U	210000 U	3600 U	89 U	180 U
Toxaphene	900000 U	3700 U	8800000 U	2100000 U	940000 U	2100000 U	36000 U	890 U	1800 U
Herbicides, ug/kg									
2,4,5-TP (Silvex)	10 J	0.38 J	16 J	53 J	61 J	73 U	18 J	14 J	13 J
2,4,5-T	0.69 J	0.83 J	66 J	65 J	49 J	16 J	18 J	26 J	89 J
2,4-D	31 J	16 UJ	280 J	260 J	120 J	180 U	0.72 U	19 J	180 J
2,4-DB	33 J	50 J	15000 J	6100 J	380 J	4100 J	89 J	35 J	13 J
Dalapon	17 J	9 J	140 J	230 J	19 J	29 J	53 J	54 J	14 J
Dicamba	73 J	26 J	86 J	75 J	12	53 J	17 J	0.63 J	59 J
Dichloroprop	34 J	26 UJ	390 J	180 J	18 J	290 U	76 J	4 J	84 J
Dinoseb	86 J	54 J	1200 J	170 J	110 J	16 J	30 J	12 J	24 J
MCPPA	7200 J	46 J	62000 J	2200 J	21000 J	120000 J	1300 U	620 U	380 J
MCPP	950 U	8500 J	580 J	530 J	910 J	2200 U	1900 U	940 U	4600 J
Inorganics, mg/kg									
Aluminum	1280 J	1790 J	168 J	193 J	553 J	705 J	637 J	79.5 U	567 J
Antimony	11 UJ	11 UJ	0.6 J	16 U	12 UJ	14 UJ	14 U	0.78 U	11 UJ
Arsenic	0.74 J	13 U	12 J	0.73 J	1.3 J	17 J	3	12 U	35
Barium	7 J	4.4 J	5.5 J	6.2 J	4.2 J	4.8 J	31.9 J	8.2 J	5.2 J
Beryllium	0.09 U	0.09 U	0.08 U	0.12 U	0.09 U	0.12 U	0.06 U	0.08 U	0.05 U
Cadmium	0.15 J	0.2 U	2.8	3.3	0.36 J	0.47 J	1.2	0.17 U	0.23 J
Calcium	546 J	311 J	1000 J	1420	421 J	462 J	78400	2290	235000
Chromium	35	2 J	33	48	18 J	2 J	163	17 J	61

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00101	47S00102	47S00201	47S00201D	47S00202	47S00202D	47S00301	47S00302	47S00401
Sampling Date	4/9/97	4/9/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Cobalt	0 4 U	0 44 U	0 4 U	0 28 J	0 44 U	0 54 U	0 57 J	0 4 U	0 37 J
Copper	5 1 J	1 8 J	8	6 4	1 5 J	2 7 J	22 9	2 1 J	2 2 J
Iron	1030	479	2420	4520	281	1110	1900	186	287
Lead	27 7	3 7	51 4	60 6	6 4	8 6	132	6 8	3 6
Magnesium	74 1 J	45 8 J	46 5 J	55 6 J	19 5 U	20 9 J	545 J	32 7 J	1390
Manganese	8 6 J	7 8 J	19 1 J	26 4 J	7 8 J	7 7 J	24 9 J	11 3 J	26 J
Mercury	0 05 U	0 05 U	0 05 U	0 07 U	0 07 U	0 07 U	0 05 U	0 05 U	0 05 U
Nickel	0 94 J	1 4 J	1 8 J	2 3 J	0 82 J	1 5 J	4 8 J	0 61 J	0 98 J
Potassium	67 6 U	37 2 U	52 3 U	51 6 U	32 9 U	39 5 U	80 5 U	45 6 U	94 1 J
Selenium	1 9 U	2 U	1 8 U	2 7 U	2 1 U	2 4 U	2 U	1 9 U	2 U
Silver	0 32 U	0 33 U	0 31 U	0 42 U	0 33 U	0 41 U	1 2 J	0 32 U	0 32 U
Sodium	274 U	234 U	257 U	300 U	279 U	279 U	295 U	279 U	277 U
Thallium	2 5 U	2 6 U	2 3 U	3 2 U	2 6 U	3 2 U	2 6 U	2 5 U	2 6 U
Vanadium	3 6	2 J	1 1 J	1 J	1 J	0 99 J	4 4 J	1 J	4 8 J
Zinc	19 3 J	4 J	43 9 J	46 3 J	6 6 J	7 6 J	78 J	4 6 J	4 J

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00402	47S00501	47S00502	47S00601	47S00602	47S00701	47S00702	47S00801	47S00802
Sampling Date	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Volatile Organics, ug/kg									
1,1,1-Trichloroethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
1,1,2,2-Tetrachloroethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
1,1,2-Trichloroethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
1,1-Dichloroethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
1,1-Dichloroethene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
1,2-Dichloroethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
1,2-Dichloroethene (total)	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
1,2-Dichloropropane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
2-Butanone	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
2-Hexanone	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
4-Methyl-2-pentanone	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Acetone	28 J	NA	18 J	NA	28 J	NA	NA	NA	26 J
Benzene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Bromodichloromethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Bromoform	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Bromomethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Carbon disulfide	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Carbon tetrachloride	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Chlorobenzene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Chloroethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Chloroform	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Chloromethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
cis-1,3-Dichloropropene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Dibromochloromethane	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Ethylbenzene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Methylene chloride	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Styrene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Tetrachloroethene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Toluene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
trans-1,3-Dichloropropene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Trichloroethene	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Vinyl chloride	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Xylene (total)	11 U	NA	11 U	NA	11 U	NA	NA	NA	11 U
Semivolatile Organics, ug/kg									
1,2,4-Trichlorobenzene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
1,2-Dichlorobenzene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U

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**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00402	47S00501	47S00502	47S00601	47S00602	47S00701	47S00702	47S00801	47S00802
Sampling Date	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
1,3-Dichlorobenzene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
1,4-Dichlorobenzene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2,2'-oxybis(1-Chloropropane)	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2,4,5-Trichlorophenol	890 U	900 U	870 U	880 U	890 U	NA	NA	1000 U	870 U
2,4,6-Trichlorophenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2,4-Dichlorophenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2,4-Dimethylphenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2,4-Dinitrophenol	890 U	900 U	870 U	880 U	890 U	NA	NA	1000 U	870 U
2,4-Dinitrotoluene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2,6-Dinitrotoluene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2-Chloronaphthalene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2-Chlorophenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2-Methylnaphthalene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2-Methylphenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
2-Nitroaniline	890 U	900 U	870 U	880 U	890 U	NA	NA	1000 U	870 U
2-Nitrophenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
3,3'-Dichlorobenzidine	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
3-Nitroaniline	890 U	900 U	870 U	880 U	890 U	NA	NA	1000 U	870 U
4,6-Dinitro-2-methylphenol	890 U	900 U	870 U	880 U	890 U	NA	NA	1000 U	870 U
4-Bromophenyl-phenylether	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
4-Chloro-3-methylphenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
4-Chloroaniline	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
4-Chlorophenyl-phenylether	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
4-Methylphenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
4-Nitroaniline	890 U	900 U	870 U	880 U	890 U	NA	NA	1000 U	870 U
4-Nitrophenol	890 UJ	900 UJ	870 UJ	880 UJ	890 UJ	NA	NA	1000 UJ	870 UJ
Acenaphthene	350 UJ	360 UJ	350 UJ	350 UJ	350 UJ	NA	NA	400 UJ	350 UJ
Acenaphthylene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Anthracene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Benzo(a)anthracene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Benzo(a)pyrene	350 U	360 U	350 U	55 J	350 U	NA	NA	400 U	350 U
Benzo(b)fluoranthene	350 U	360 U	350 U	76 J	350 U	NA	NA	51 J	350 U
Benzo(g,h,i)perylene	350 U	360 U	350 U	630	350 U	NA	NA	96 J	350 U
Benzo(k)fluoranthene	350 U	360 U	350 U	74 J	350 U	NA	NA	50 J	350 U
bis(2-Chloroethoxy)methane	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
bis(2-Chloroethyl)ether	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
bis(2-Ethylhexyl)phthalate	41 J	63 J	57 J	37 J	38 J	NA	NA	400 U	350 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00402	47S00501	47S00502	47S00601	47S00602	47S00701	47S00702	47S00801	47S00802
Sampling Date	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Butylbenzylphthalate	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Carbazole	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Chrysene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Di-n-butylphthalate	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Di-n-octylphthalate	350 U	360 U	350 U	38 J	350 U	NA	NA	400 U	24 J
Dibenz(a,h)anthracene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Dibenzofuran	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Diethylphthalate	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Dimethylphthalate	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Fluoranthene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Fluorene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Hexachlorobenzene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Hexachlorobutadiene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Hexachlorocyclopentadiene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Hexachloroethane	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Indeno(1,2,3-cd)pyrene	350 U	360 U	350 U	140 J	350 U	NA	NA	29 J	350 U
Isophorone	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
N-Nitroso-di-n-propylamine	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
N-Nitrosodiphenylamine (1)	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Naphthalene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Nitrobenzene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Pentachlorophenol	890 U	900 U	870 U	880 U	890 U	NA	NA	1000 U	870 U
Phenanthrene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Phenol	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Pyrene	350 U	360 U	350 U	350 U	350 U	NA	NA	400 U	350 U
Pesticides/PCB, ug/kg									
4,4'-DDD	120	18	100000 J	2000 J	120 J	460 J	5 6 J	1100000 J	680 J
4,4'-DDE	88	120	34000 J	16000	1000	760	71 J	410000	200 J
4,4'-DDT	2300	330	2100000	71000	3100	660 J	220	12000000 J	18000
Aldrin	36 U	1 8 U	18000 U	66 J	7 J	180 U	15 J	51000 U	180 U
alpha-BHC	36 U	1 8 U	18000 U	890 U	36 U	180 U	18 U	51000 U	180 U
alpha-Chlordane	18 J	0 31 J	23000 J	2800 J	170 J	3600 J	220 J	88000	42 J
Aroclor-1016	700 U	36 U	350000 U	17000 U	700 U	3500 U	350 U	990000 U	3500 U
Aroclor-1221	1400 U	72 U	700000 U	35000 U	1400 U	7100 U	710 U	2000000 U	7000 U
Aroclor-1232	700 U	36 U	350000 U	17000 U	700 U	3500 U	350 U	990000 U	3500 U
Aroclor-1242	700 U	36 U	350000 U	17000 U	700 U	3500 U	350 U	990000 U	3500 U
Aroclor-1248	700 U	36 U	350000 U	17000 U	700 U	3500 U	350 U	990000 U	3500 U

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00402	47S00501	47S00502	47S00601	47S00602	47S00701	47S00702	47S00801	47S00802
Sampling Date	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Aroclor-1254	700 U	36 U	350000 U	17000 U	700 U	3500 U	350 U	990000 U	3500 U
Aroclor-1260	700 U	36 U	350000 U	17000 U	700 U	3500 U	350 U	990000 U	3500 U
beta-BHC	36 U	1 8 U	2500 J	890 U	6.1 J	180 U	4 J	5300 J	180 U
delta-BHC	36 U	1 8 U	18000 U	890 U	36 U	180 U	18 U	51000 U	180 U
Dieldrin	130	0 46 J	35000 U	1700 U	70 U	350 U	29 J	21000 J	8 5 J
Endosulfan I	36 U	1 8 U	18000 U	890 U	36 U	180 U	18 U	51000 U	180 U
Endosulfan II	70 U	3 6 U	35000 U	1700 U	70 U	350 U	35 U	99000 U	350 U
Endosulfan sulfate	70 U	3 6 U	35000 U	1700 U	70 U	350 U	35 U	99000 U	350 U
Endrin	70 U	3 6 U	1600 J	1700 U	70 U	130 J	36 J	7900 J	350 U
Endrin aldehyde	70 U	3 6 U	35000 U	1700 U	70 U	350 U	1 4 J	99000 U	350 U
Endrin ketone	70 U	3 6 U	35000 U	1700 U	70 U	350 U	35 U	99000 U	350 U
gamma-BHC (Lindane)	36 U	1 8 U	18000 U	890 U	0 94 J	180 U	0 52 J	51000 U	180 U
gamma-Chlordane	18 J	4 2	24000 J	4600 J	290 J	3800 J	260 J	100000	45 J
Heptachlor	1 9 J	0 93 J	4200 J	1800	110	50 J	18 U	12000 J	180 U
Heptachlor epoxide	36 U	0 18 J	18000 U	890 U	50 J	180 U	40 J	51000 U	180 U
Methoxychlor	360 U	18 U	180000 U	8900 U	360 U	1800 U	180 U	510000 U	1800 U
Toxaphene	3600 U	180 U	1800000 U	89000 U	3600 U	18000 U	1800 U	5100000 U	18000 U
Herbicides, ug/kg									
2,4,5-TP (Silvex)	0 58 J	0 88 J	1 7 J	0 51 J	0 37 J	6 J	0 03 J	0 5 J	0 2 J
2,4,5-T	1 2 J	6 5	5 2 J	2 8 J	2 8	5 J	0 58 J	1 5 J	3 5 J
2,4-D	0 34 J	21 J	16 J	23	15 J	9 6 U	11 J	23 J	3 J
2,4-DB	16 UJ	4 3 J	4 J	40 J	14 J	180 J	52 J	180 J	15 J
Dalapon	3 9 J	6 2 J	6 7 J	5 8 J	31	42 J	8 J	10 J	43 J
Dicamba	7	4 2 J	14 J	4 2 J	3 9 J	3 9 J	2 8 J	4 7 J	5 2 J
Dichloroprop	16 J	41	45 J	24 J	3 7 J	30 J	16 J	58 J	5 UJ
Dinoseb	4 J	0 14 J	5 J	25 J	1 1 J	50 J	2 8 J	12 J	3 9 J
MCPA	150 J	40 J	8000 J	45 J	4000 J	16000 J	760 J	140 UJ	120 U
MCPP	190 U	200 J	5500 J	2200 J	46 J	13000 J	260 J	1400 J	190 U
Inorganics, mg/kg									
Aluminum	835 J	1330 J	275 J	408 J	1840 J	1530 J	935 J	1100 J	116 U
Antimony	0 56 U	11 UJ	11 UJ	11 UJ	0 53 U	11 UJ	1 1 UJ	0 66 U	1 UJ
Arsenic	3 5	15 5	3 1	1 3 J	4 9	6 8	3 9	1 6 U	1 2 U
Barium	4 4 J	10 3 J	2 9 J	5 J	2 4 J	5 3 J	3 2 J	8 5 J	3 1 J
Beryllium	0 09 U	0 08 U	0 08 U	0 05 U	0 09 U	0 09 U	0 09 U	0 1 U	0 08 U
Cadmium	0 19 U	0 09 J	0 17 U	0 11 J	0 19 U	0 32 J	0 19 U	0 29 J	0 17 U
Calcium	5590	116000	3070	124000	1400	631 J	333 J	154000	2180
Chromium	1 5 J	5 3	1 1 U	4 4	2 J	4	1 8 J	21 6	0 83 J

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00402	47S00501	47S00502	47S00601	47S00602	47S00701	47S00702	47S00801	47S00802
Sampling Date	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Cobalt	0 41 U	0 43 U	0 4 U	0 4 U	0 41 U	0 4 U	0 4 U	0 55 J	0 4 U
Copper	2 J	2 6 J	1 8 J	2 4 J	2 5 J	10	2 9 J	4 8 J	2 J
Iron	238	546	181	229	240	545	183	577	109
Lead	3 7	26 8	2 9	3 8	1 9	28 9	4 5	5 6	2 2
Magnesium	56 5 J	800 J	34 8 J	770 J	37 8 J	86 4 J	41 3 J	996 J	29 2 J
Manganese	10 3 J	24 J	9 9 J	16 7 J	3 3 J	12 3 J	5 1 J	28 1 J	7 9 J
Mercury	0 05 U	0 07 U	0 05 U						
Nickel	0 41 J	1 J	0 32 J	1 2 J	1 J	1 8 J	0 72 J	7 9 J	0 43 J
Potassium	49 2 U	95 4 J	43 7 U	74 8 U	35 8 U	46 8 U	34 1 U	139 J	42 2 U
Selenium	2 U	2 U	1 9 U	1 9 U	2 U	1 9 U	2 U	2 4 U	1 9 U
Silver	0 32 U	0 29 J	0 31 U						
Sodium	250 U	275 U	244 U	284 U	231 U	266 U	215 U	381 U	223 U
Thallium	2 6 U	2 6 U	2 5 U	2 5 U	2 6 U	2 6 U	2 6 U	3 2 U	2 5 U
Vanadium	1 J	4 6 J	1 J	3 7 J	2 J	2 1 J	1 J	4 7 J	1 J
Zinc	3 6 J	6 6 J	3 2 J	4 7 J	5 1 J	28 4 J	4 5 J	8 J	4 8 J

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Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00901	47S00902	47S01001	47S01002	47S01101	47S01102	47S01201	47S01202	47S01301
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97
Volatile Organics, ug/kg									
1,1,1-Trichloroethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
1,1,2,2-Tetrachloroethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
1,1,2-Trichloroethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
1,1-Dichloroethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
1,1-Dichloroethene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
1,2-Dichloroethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
1,2-Dichloroethene (total)	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
1,2-Dichloropropane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
2-Butanone	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
2-Hexanone	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
4-Methyl-2-pentanone	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Acetone	NA	19 U	NA	11 U	NA	11 UJ	NA	11 U	NA
Benzene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Bromodichloromethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Bromoform	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Bromomethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Carbon disulfide	NA	10 UJ	NA	11 UJ	NA	11 UJ	NA	11 UJ	NA
Carbon tetrachloride	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Chlorobenzene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Chloroethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Chloroform	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Chloromethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
cis-1,3-Dichloropropene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Dibromochloromethane	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Ethylbenzene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Methylene chloride	NA	1 J	NA	11 U	NA	1 J	NA	2 J	NA
Styrene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Tetrachloroethene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Toluene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
trans-1,3-Dichloropropene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Trichloroethene	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Vinyl chloride	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Xylene (total)	NA	10 U	NA	11 U	NA	11 U	NA	11 U	NA
Semivolatile Organics, ug/kg									
1,2,4-Trichlorobenzene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
1,2-Dichlorobenzene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00901	47S00902	47S01001	47S01002	47S01101	47S01102	47S01201	47S01202	47S01301
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97
1,3-Dichlorobenzene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
1,4-Dichlorobenzene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2,2'-oxybis(1-Chloropropane)	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2,4,5-Trichlorophenol	860 U	850 U	890 U	880 U	840 U	890 U	840 U	900 U	860 U
2,4,6-Trichlorophenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2,4-Dichlorophenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2,4-Dimethylphenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2,4-Dinitrophenol	860 U	850 U	890 U	880 U	840 U	890 U	840 U	900 U	860 U
2,4-Dinitrotoluene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2,6-Dinitrotoluene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2-Chloronaphthalene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2-Chlorophenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2-Methylnaphthalene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2-Methylphenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
2-Nitroaniline	860 U	850 U	890 U	880 U	840 U	890 U	840 U	900 U	860 U
2-Nitrophenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
3,3'-Dichlorobenzidine	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
3-Nitroaniline	860 U	850 U	890 U	880 U	840 U	890 U	840 U	900 U	860 U
4,6-Dinitro-2-methylphenol	860 U	850 U	890 U	880 U	840 U	890 U	840 U	900 U	860 U
4-Bromophenyl-phenylether	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
4-Chloro-3-methylphenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
4-Chloroaniline	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
4-Chlorophenyl-phenylether	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
4-Methylphenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
4-Nitroaniline	860 U	850 U	890 U	880 U	840 U	890 U	840 U	900 U	860 U
4-Nitrophenol	860 UJ	850 UJ	890 UJ	880 UJ	840 UJ	890 UJ	840 U	900 U	860 UJ
Acenaphthene	340 UJ	340 UJ	350 UJ	350 UJ	330 UJ	350 UJ	330 U	360 U	340 UJ
Acenaphthylene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Anthracene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Benzo(a)anthracene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Benzo(a)pyrene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Benzo(b)fluoranthene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Benzo(g,h,i)perylene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Benzo(k)fluoranthene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
bis(2-Chloroethoxy)methane	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
bis(2-Chloroethyl)ether	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
bis(2-Ethylhexyl)phthalate	60 J	340 U	350 U	350 U	330 U	350 U	40 J	360 U	340 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00901	47S00902	47S01001	47S01002	47S01101	47S01102	47S01201	47S01202	47S01301
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97
Butylbenzylphthalate	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Carbazole	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Chrysene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Di-n-butylphthalate	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Di-n-octylphthalate	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Dibenz(a,h)anthracene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Dibenzofuran	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Diethylphthalate	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Dimethylphthalate	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Fluoranthene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Fluorene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Hexachlorobenzene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Hexachlorobutadiene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Hexachlorocyclopentadiene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Hexachloroethane	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Indeno(1,2,3-cd)pyrene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Isophorone	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
N-Nitroso-di-n-propylamine	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
N-Nitrosodiphenylamine (1)	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Naphthalene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Nitrobenzene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Pentachlorophenol	860 U	850 U	890 U	880 U	840 U	890 U	840 U	900 U	860 U
Phenanthrene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Phenol	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Pyrene	340 U	340 U	350 U	350 U	330 U	350 U	330 U	360 U	340 U
Pesticides/PCB, ug/kg									
4,4'-DDD	170 J	18 J	3 5 U	0 28 J	200 J	3 5 U	9 7 J	0 58 J	1 7 J
4,4'-DDE	900	220	16	2 8 J	610 J	18	340	11	21
4,4'-DDT	5200 J	770	15	11	4900	29	380	30	37
Aldrin	18 U	8 6 U	1 8 U	1 8 U	86 U	0 33 J	1 7 U	0 39 J	1 8 U
alpha-BHC	18 U	8 6 U	1 8 U	1 8 U	86 U	1 8 U	1 7 U	1 8 U	1 8 U
alpha-Chlordane	23 J	8 J	0 26 J	1 8 U	100 J	1 7 J	15 J	0 34 J	1 8 U
Aroclor-1016	340 U	170 U	35 U	35 U	1700 U	35 U	33 U	35 U	34 U
Aroclor-1221	700 U	340 U	72 U	70 U	3400 U	72 U	66 U	72 U	70 U
Aroclor-1232	340 U	170 U	35 U	35 U	1700 U	35 U	33 U	35 U	34 U
Aroclor-1242	340 U	170 U	35 U	35 U	1700 U	35 U	33 U	35 U	34 U
Aroclor-1248	340 U	170 U	35 U	35 U	1700 U	35 U	33 U	35 U	34 U

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00901	47S00902	47S01001	47S01002	47S01101	47S01102	47S01201	47S01202	47S01301
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97
Aroclor-1254	340 U	170 U	35 U	35 U	1700 U	35 U	33 U	35 U	34 U
Aroclor-1260	340 U	170 U	35 U	35 U	1700 U	35 U	33 U	35 U	34 U
beta-BHC	18 U	86 U	18 U	18 U	86 U	18 U	17 U	18 U	18 U
delta-BHC	18 U	86 U	0.32 J	18 U	86 U	0.66 J	17 U	0.17 J	0.9 J
Dieldrin	34 U	73 J	12 J	35 U	170 U	11 J	93 J	0.78 J	0.72 J
Endosulfan I	18 U	86 U	18 U	18 U	86 U	18 U	0.65 J	18 U	18 U
Endosulfan II	34 U	17 U	0.28 J	35 U	170 U	35 U	33 U	35 U	34 U
Endosulfan sulfate	34 U	17 U	35 U	35 U	170 U	35 U	33 U	35 U	34 U
Endrin	22 J	17 U	35 U	35 U	100 J	35 U	13 J	35 U	34 U
Endrin aldehyde	34 U	17 U	35 U	35 U	170 U	35 U	12 J	35 U	34 U
Endrin ketone	34 U	17 U	35 U	35 U	170 U	35 U	33 U	35 U	34 U
gamma-BHC (Lindane)	18 U	86 U	18 U	18 U	86 U	0.19 J	0.12 J	0.18 J	18 U
gamma-Chlordane	22 J	83 J	0.27 J	0.18 J	190	18 U	17	0.29 J	18 U
Heptachlor	18 U	86 U	18 U	18 U	49 J	0.36 J	34	0.64 J	18 U
Heptachlor epoxide	18 U	86 U	18 U	18 U	86 U	0.21 J	17 U	18 U	18 U
Methoxychlor	180 U	21 J	18 U	18 U	860 U	18 U	8.9 J	18 U	18 U
Toxaphene	1800 U	860 U	180 U	180 U	8600 U	180 U	170 U	180 U	180 U
Herbicides, ug/kg									
2,4,5-TP (Silvex)	28 J	12 U	11 J	0.74 J	84 J	0.92 J	0.55 J	0.26 J	3 J
2,4,5-T	0.79 J	23 J	21 J	5.8 J	4.5 J	9.4 J	0.82 J	4.6 J	1.6 J
2,4-D	33	46 J	17 J	11 J	50	8 J	1.3 J	1.5 J	1.6 J
2,4-DB	78 U	62 J	31 J	37 J	17 J	67 J	27 J	54 J	24 J
Dalapon	1.5 J	16 J	5.5 J	30 J	7.4 J	21 J	45 J	9.2 J	8.3 J
Dicamba	6.4 J	43 J	9.6	2.9 J	7 J	3 J	17 J	6.7 J	3.1 J
Dichloroprop	25 U	49 UJ	5.9 J	86 J	4.3 J	88	18 J	30 J	5 J
Dinoseb	6.7 J	7.8 J	12 J	150	71 J	25 J	9.8 J	18 J	10 J
MCPA	2100 J	1700 J	3700 J	1100 U	6000 J	1100 U	1000 U	5300	3700 J
CPP	190 U	11000 J	3000 J	1600 U	23000 J	1600 U	1100 J	14000 J	3800 J
Inorganics, mg/kg									
Aluminum	5760 J	804 J	425	2740	198	1580	665	2220	1230
Antimony	1 UJ	1 UJ	0.61 UJ	1.1 UJ	1 UJ	1.1 UJ	0.99 UJ	1.1 UJ	1 UJ
Arsenic	1.3 J	12 U	13 U	13 U	12 U	13 U	1.2 U	1.3 U	1.2 U
Barium	15.9 J	4.8 J	4.4 J	3.8 J	4.7 J	3.7 J	4.8 J	4 J	3.8 J
Beryllium	0.04 U	0.08 U	0.09 U	0.09 U	0.08 U	0.09 U	0.08 U	0.09 U	0.08 U
Cadmium	0.17 U	0.16 J	0.19 U	0.19 U	0.09 J	0.19 U	0.13 J	0.2 U	0.12 J
Calcium	444 J	398 J	345 J	185 J	332 J	252 J	168 J	132 J	312 J
Chromium	10.1	22	16 J	3	12 J	22	18 J	27	2 J

Appendix B-1**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S00901	47S00902	47S01001	47S01002	47S01101	47S01102	47S01201	47S01202	47S01301
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97
Cobalt	0 4 U	0 37 U	0 41 U	0 4 U	0 37 U	0 41 U	0 36 U	0 44 U	0 4 U
Copper	2 2 J	2 1 J	3 J	3 J	1 8 J	0 86 J	2 2 J	1 2 J	1 9 J
Iron	4500	742	358	241	267	111	543	206	319
Lead	46 1	27 9	23 7	4 2	11 9	3 9	18 9	3 1	15 1
Magnesium	102 J	35 5 J	48 7 J	36 9 J	46 8 J	30 7 J	41 7 J	30 9 J	49 3 J
Manganese	8 6 J	7 1 J	6 7	2 1 J	4 8	2 4 J	5 3	4 2	8 7
Mercury	0 05 U								
Nickel	1 3 J	0 74 J	0 56 U	0 94 U	0 58 U	0 58 U	0 55 U	0 8 U	0 72 U
Potassium	55 7 U	32 4 U	43 1 U	49 6 U	35 3 U	39 8 U	40 7 U	45 5 U	56 1 U
Selenium	1 9 U	1 8 U	2 U	2 U	1 8 U	2 U	1 8 U	2 U	1 9 U
Silver	0 31 U	0 29 U	0 32 U	0 32 U	0 29 U	0 32 U	0 28 U	0 33 U	0 31 U
Sodium	241 U	252 U	279 U	304 U	236 U	280 U	228 U	255 U	273 U
Thallium	2 5 U	2 2 U	2 6 U	2 6 U	2 2 U	2 6 U	2 2 U	2 6 U	2 3 U
Vanadium	10 2 J	2 J	1 6 J	2 J	1 1 J	1 J	2 2 J	1 J	2 2 J
Zinc	13 3 J	4 9 J	13 7 J	4 4 J	18 8 J	4 9 J	12 1 J	4 1 J	26 1 J

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01302	47S01401	47S01402	47S01501	47S01601	47S01602	47S01701	47S01702	47S01801
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/14/97
Volatile Organics, ug/kg									
1,1,1-Trichloroethane	10 U	NA	NA	NA	NA	2 J	NA	11 U	NA
1,1,2,2-Tetrachloroethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
1,1,2-Trichloroethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
1,1-Dichloroethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
1,1-Dichloroethene	10 U	NA	NA	NA	NA	2 J	NA	11 U	NA
1,2-Dichloroethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
1,2-Dichloroethene (total)	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
1,2-Dichloropropane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
2-Butanone	10 U	NA	NA	NA	NA	11 U	NA	11 UJ	NA
2-Hexanone	10 U	NA	NA	NA	NA	11 U	NA	11 UJ	NA
4-Methyl-2-pentanone	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Acetone	15 U	NA	NA	NA	NA	14 U	NA	20 UJ	NA
Benzene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Bromodichloromethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Bromoform	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Bromomethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Carbon disulfide	10 UJ	NA	NA	NA	NA	11 UJ	NA	11 UJ	NA
Carbon tetrachloride	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Chlorobenzene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Chloroethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Chloroform	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Chloromethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
cis-1,3-Dichloropropene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Dibromochloromethane	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Ethylbenzene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Methylene chloride	1 J	NA	NA	NA	NA	1 J	NA	1 J	NA
Styrene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Tetrachloroethene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Toluene	10 U	NA	NA	NA	NA	11	NA	1 J	NA
trans-1,3-Dichloropropene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Trichloroethene	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Vinyl chloride	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Xylene (total)	10 U	NA	NA	NA	NA	11 U	NA	11 U	NA
Semivolatile Organics, ug/kg									
1,2,4-Trichlorobenzene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
1,2-Dichlorobenzene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01302	47S01401	47S01402	47S01501	47S01601	47S01602	47S01701	47S01702	47S01801
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/14/97
1,3-Dichlorobenzene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
1,4-Dichlorobenzene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2,2'-oxybis(1-Chloropropane)	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2,4,5-Trichlorophenol	860 U	NA	NA	NA	890 U	890 U	860 U	870 U	870 U
2,4,6-Trichlorophenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2,4-Dichlorophenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2,4-Dimethylphenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2,4-Dinitrophenol	860 U	NA	NA	NA	890 U	890 U	860 U	870 U	870 U
2,4-Dinitrotoluene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2,6-Dinitrotoluene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2-Chloronaphthalene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2-Chlorophenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2-Methylnaphthalene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2-Methylphenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
2-Nitroaniline	860 U	NA	NA	NA	890 U	890 U	860 U	870 U	870 U
2-Nitrophenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
3,3'-Dichlorobenzidine	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
3-Nitroaniline	860 U	NA	NA	NA	890 U	890 U	860 U	870 U	870 U
4,6-Dinitro-2-methylphenol	860 U	NA	NA	NA	890 U	890 U	860 U	870 U	870 U
4-Bromophenyl-phenylether	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
4-Chloro-3-methylphenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
4-Chloroaniline	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
4-Chlorophenyl-phenylether	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
4-Methylphenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
4-Nitroaniline	860 U	NA	NA	NA	890 U	890 U	860 U	870 U	870 U
4-Nitrophenol	860 UJ	NA	NA	NA	890 UJ	890 UJ	860 UJ	870 U	870 U
Acenaphthene	340 UJ	NA	NA	NA	350 UJ	350 UJ	340 UJ	350 U	350 U
Acenaphthylene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Anthracene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Benzo(a)anthracene	340 U	NA	NA	NA	53 J	350 U	340 U	350 U	350 U
Benzo(a)pyrene	340 U	NA	NA	NA	140 J	350 U	340 U	350 U	350 U
Benzo(b)fluoranthene	340 U	NA	NA	NA	250 J	350 U	340 U	350 U	350 U
Benzo(g,h,i)perylene	340 U	NA	NA	NA	160 J	350 U	340 U	350 U	350 U
Benzo(k)fluoranthene	340 U	NA	NA	NA	260 J	350 U	340 U	350 U	350 U
bis(2-Chloroethoxy)methane	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
bis(2-Chloroethyl)ether	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
bis(2-Ethylhexyl)phthalate	340 U	NA	NA	NA	31 J	350 U	41 J	350 U	81 J

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01302	47S01401	47S01402	47S01501	47S01601	47S01602	47S01701	47S01702	47S01801
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/14/97
Butylbenzylphthalate	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Carbazole	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Chrysene	340 U	NA	NA	NA	75 J	350 U	340 U	350 U	350 U
Di-n-butylphthalate	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	58 J
Di-n-octylphthalate	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Dibenz(a,h)anthracene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Dibenzofuran	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Diethylphthalate	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Dimethylphthalate	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Fluoranthene	340 U	NA	NA	NA	60 J	350 U	26 J	350 U	350 U
Fluorene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Hexachlorobenzene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Hexachlorobutadiene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Hexachlorocyclopentadiene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Hexachloroethane	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Indeno(1,2,3-cd)pyrene	340 U	NA	NA	NA	120 J	350 U	340 U	350 U	350 U
Isophorone	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
N-Nitroso-di-n-propylamine	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
N-Nitrosodiphenylamine (1)	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Naphthalene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Nitrobenzene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Pentachlorophenol	860 U	NA	NA	NA	890 U	890 U	860 U	870 U	870 U
Phenanthrene	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Phenol	340 U	NA	NA	NA	350 U	350 U	340 U	350 U	350 U
Pyrene	340 U	NA	NA	NA	51 J	350 U	340 U	350 U	350 U
Pesticides/PCB, ug/kg									
4,4'-DDD	5 9 J	530 J	15 J	17000 J	460 J	4 6 J	26 J	5 7 J	35 J
4,4'-DDE	47	380 J	68	63000 J	640	13	990	110	76
4,4'-DDT	100	6300	940	560000	7800	110	510	86	380 J
Aldrin	5 3 U	88 U	18 U	96 U	90 U	1 8 U	18 U	3 6 U	8 9 U
alpha-BHC	5 3 U	88 U	18 U	96 U	90 U	1 8 U	18 U	3 6 U	8 9 U
alpha-Chlordane	1 8 J	510 J	220	5000 J	550	7 1	12 J	2 6 J	1 8 J
Aroclor-1016	100 U	1700 U	340 U	1900 U	1800 U	35 U	340 U	70 U	170 U
Aroclor-1221	210 U	3500 U	700 U	3800 U	3600 U	71 U	700 U	140 U	350 U
Aroclor-1232	100 U	1700 U	340 U	1900 U	1800 U	35 U	340 U	70 U	170 U
Aroclor-1242	100 U	1700 U	340 U	1900 U	1800 U	35 U	340 U	70 U	170 U
Aroclor-1248	100 U	1700 U	340 U	1900 U	1800 U	35 U	340 U	70 U	170 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01302	47S01401	47S01402	47S01501	47S01601	47S01602	47S01701	47S01702	47S01801
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/14/97
Aroclor-1254	100 U	1700 U	340 U	1900 U	1800 U	35 U	340 U	70 U	170 U
Aroclor-1260	100 U	1700 U	340 U	1900 U	1800 U	35 U	340 U	70 U	170 U
beta-BHC	53 U	88 U	12 J	870 J	90 U	0 97 J	18 U	36 U	89 U
delta-BHC	53 U	88 U	8 8 J	96 U	90 U	0 95 J	18 U	36 U	89 U
Dieldrin	12 J	360 J	160 J	1100 J	260 J	5 J	31 J	6 J	17 U
Endosulfan I	53 U	88 U	18 U	280 J	90 U	18 U	18 U	36 U	89 U
Endosulfan II	10 U	170 U	34 U	190 U	180 U	35 U	34 U	7 U	17 U
Endosulfan sulfate	10 U	170 U	34 U	190 U	180 U	35 U	34 U	7 U	28 J
Endrin	12 J	120 J	34 U	190 U	200	35 U	10 J	32 J	57 J
Endrin aldehyde	10 U	170 U	34 U	190 U	21 J	35 U	34 U	7 U	17 U
Endrin ketone	10 U	170 U	29 J	17 J	180 U	35 U	34 U	7 U	17 U
gamma-BHC (Lindane)	53 U	88 U	18 U	33 J	90 U	18 U	18 U	36 U	89 U
gamma-Chlordane	18 J	550 J	240	24000 J	470	53	12 J	26 J	3 J
Heptachlor	53 U	76 J	38 J	5600 J	90 U	0 31 J	18 U	36 U	89 U
Heptachlor epoxide	53 U	21 J	12 J	21 J	26 J	0 66 J	18 U	36 U	89 U
Methoxychlor	53 U	880 U	180 U	960 U	900 U	18 U	180 U	24 J	28 J
Toxaphene	530 U	8800 U	1800 U	9600 U	9000 U	180 U	1800 U	360 U	890 U
Herbicides, ug/kg									
2,4,5-TP (Silvex)	0.82 J	24 J	21 U	18 J	0.34 J	0.77 J	1 J	19 J	21 U
2,4,5-T	3 J	22 J	52 U	42 J	16 J	19 J	0.34 J	0.52 J	32 J
2,4-D	19 J	45 J	76 J	450 J	27 U	54 U	52 U	12 J	8 J
2,4-DB	27 J	110 J	100 J	3700 J	130 U	10 J	26 U	28 J	28 J
Dalapon	12 J	29 J	14 J	71 J	59 J	8 J	17 J	26 J	26 U
Dicamba	6.5 J	91 J	58	56 J	13 U	29 J	46 J	33	26 U
Dichloroprop	36 J	19 J	21 J	330	43 U	26 J	83 U	46 J	12 J
Dinoseb	0.72 J	6.5 J	11 J	250 J	23 J	9 J	52 U	53 J	20 J
MCPA	4200 J	8600 J	2400 J	3900 J	6800 J	2200 U	13000 J	7000 J	3000 J
MCPP	310 U	16000 J	84000 J	150000 J	42000 J	8500 J	13000 J	320 U	7600
Inorganics, mg/kg									
Aluminum	1690	403	2110	1860	864	1960	1040	574	913
Antimony	1 UJ	0.57 UJ	1 UJ	0.84 UJ	1.1 UJ	1.1 UJ	1 UJ	1.1 UJ	1.1 UJ
Arsenic	1.2 U	2.9	38.9	18.4	21 J	1.3 U	1.1 J	0.6 J	1.2 U
Barium	2.8 J	5.8 J	6.8 J	24.3 J	8 J	24 J	7 J	3.7 J	4.3 J
Beryllium	0.08 U	0.08 U	0.08 U	0.23 J	0.09 U	0.09 U	0.05 J	0.09 U	0.08 U
Cadmium	0.17 U	1.1	0.11 J	0.94 J	0.54 J	0.19 U	0.3 J	0.09 J	0.2 J
Calcium	128 J	1840 J	1300 J	33000 J	957 J	321 J	14500 J	3180 J	50100 J
Chromium	2 J	31	24	59	11.8	23	33	1.6 J	31

Appendix B-1**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01302	47S01401	47S01402	47S01501	47S01601	47S01602	47S01701	47S01702	47S01801
Sampling Date	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/11/97	4/14/97
Cobalt	0 4 U	0 39 U	0 39 U	0 21 U	0 23 J	0 41 U	0 4 U	0 4 U	0 4 U
Copper	1 J	7 9	2 7 J	12 7	4 2 J	1 1 J	3 7 J	1 6 J	2 9 J
Iron	311	327	152	1120	447	255	517	213	394
Lead	3	29 9	7 7	53 4	48 2	3	25 2	8	13 8
Magnesium	40 J	78 2 J	48 7 J	748 J	149 J	46 4 J	320 J	82 4 J	397 J
Manganese	4 3	9 5	2 3 J	57 6	15 2	4 3	20 6	10 4	9 3
Mercury	0 05 U	0 05 U	0 05 U	0 07 U	0 05 U				
Nickel	0 82 U	0 82 U	1 2 U	1 5 U	2 3 U	1 U	0 92 U	0 53 U	0 87 U
Potassium	56 1 U	42 2 U	44 U	231 J	71 4 J	53 3 U	91 J	54 5 U	78 2 J
Selenium	1 9 U	1 8 U	1 8 U	0 99 U	2 U	2 U	1 9 U	1 9 U	1 9 U
Silver	0 31 U	0 31 U	0 31 U	0 28 J	0 15 J	0 32 U	0 17 J	0 32 U	0 32 U
Sodium	279 U	268 U	261 U	335 U	279 U	266 U	277 U	283 U	296 U
Thallium	2 3 U	2 3 U	2 3 U	1 3 U	2 6 U	2 6 U	2 3 U	2 5 U	2 5 U
Vanadium	2 J	1 3 J	1 J	4 2 J	2 1 J	2 J	2 4 J	1 J	2 2 J
Zinc	8 6 J	25 9 J	9 3 J	117 J	36 5 J	5 7 J	32 7 J	13 J	13 4 J

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01802	47S01901	47S02001	47S02002	47S02101	47S02201	47S02202	47S02301	47S02302
Sampling Date	4/14/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97
Volatile Organics, ug/kg									
1,1,1-Trichloroethane	12 U	NA	NA	11 U	26 UJ	NA	11 U	NA	11 U
1,1,2,2-Tetrachloroethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
1,1,2-Trichloroethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
1,1-Dichloroethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
1,1-Dichloroethene	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
1,2-Dichloroethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
1,2-Dichloroethene (total)	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
1,2-Dichloropropane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
2-Butanone	12 UJ	NA	NA	11 U	26 UJ	NA	11 UJ	NA	11 UJ
2-Hexanone	12 UJ	NA	NA	11 U	26 U	NA	11 U	NA	11 U
4-Methyl-2-pentanone	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Acetone	40 UJ	NA	NA	19 UJ	150 J	NA	24 UJ	NA	23 UJ
Benzene	12 U	NA	NA	11 U	26	NA	11 U	NA	11 U
Bromodichloromethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Bromoform	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Bromomethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Carbon disulfide	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Carbon tetrachloride	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Chlorobenzene	12 U	NA	NA	11 U	110	NA	11 U	NA	11 U
Chloroethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Chloroform	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Chloromethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
cis-1,3-Dichloropropene	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Dibromochloromethane	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Ethylbenzene	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Methylene chloride	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Styrene	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Tetrachloroethene	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Toluene	12 U	NA	NA	11 UJ	26 U	NA	11 U	NA	11 U
trans-1,3-Dichloropropene	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Trichloroethene	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Vinyl chloride	12 U	NA	NA	11 U	26 U	NA	11 U	NA	11 U
Xylene (total)	12 U	NA	NA	11 U	52	NA	11 U	NA	11 U
Semivolatile Organics, ug/kg									
1,2,4-Trichlorobenzene	380 U	350 U	360 U	350 U	21000	350 U	360 U	360 U	360 U
1,2-Dichlorobenzene	380 U	350 U	360 U	350 U	2900 J	350 U	360 U	360 U	360 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01802	47S01901	47S02001	47S02002	47S02101	47S02201	47S02202	47S02301	47S02302
Sampling Date	4/14/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97
1,3-Dichlorobenzene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
1,4-Dichlorobenzene	380 U	350 U	360 U	350 U	4400 J	350 U	360 U	360 U	360 U
2,2'-oxybis(1-Chloropropane)	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2,4,5-Trichlorophenol	960 U	880 U	900 U	880 U	15000 U	880 U	900 U	910 U	900 U
2,4,6-Trichlorophenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2,4-Dichlorophenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2,4-Dimethylphenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2,4-Dinitrophenol	960 U	880 U	900 U	880 U	15000 U	880 U	900 U	910 U	900 U
2,4-Dinitrotoluene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2,6-Dinitrotoluene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2-Chloronaphthalene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2-Chlorophenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2-Methylnaphthalene	380 U	350 U	360 U	350 U	28000	350 U	360 U	360 U	360 U
2-Methylphenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
2-Nitroaniline	960 U	880 U	900 U	880 U	15000 U	880 U	900 U	910 U	900 U
2-Nitrophenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
3,3'-Dichlorobenzidine	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
3-Nitroaniline	960 U	880 U	900 U	880 U	15000 U	880 U	900 U	910 U	900 U
4,6-Dinitro-2-methylphenol	960 U	880 U	900 U	880 U	15000 U	880 U	900 U	910 U	900 U
4-Bromophenyl-phenylether	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
4-Chloro-3-methylphenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
4-Chloroaniline	380 U	350 U	360 U	350 U	16000	350 U	360 U	360 U	360 U
4-Chlorophenyl-phenylether	380 U	350 U	360 U	350 U	5900 UJ	350 U	360 U	360 U	360 U
4-Methylphenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
4-Nitroaniline	960 U	880 U	900 U	880 U	15000 U	880 U	900 U	910 U	900 U
4-Nitrophenol	960 U	880 UJ	900 UJ	880 UJ	15000 UJ	880 UJ	900 UJ	910 UJ	900 UJ
Acenaphthene	380 U	350 U	360 U	350 U	13000	350 U	360 U	360 U	360 U
Acenaphthylene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Anthracene	380 U	350 U	360 U	350 U	1700 J	350 U	360 U	360 U	360 U
Benzo(a)anthracene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Benzo(a)pyrene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Benzo(b)fluoranthene	380 U	350 U	360 U	350 U	680 J	350 U	360 U	360 U	360 U
Benzo(g,h,i)perylene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Benzo(k)fluoranthene	380 U	350 U	360 U	350 U	600 J	350 U	360 U	360 U	360 U
bis(2-Chloroethoxy)methane	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
bis(2-Chloroethyl)ether	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
bis(2-Ethylhexyl)phthalate	43 J	43 J	360 U	350 U	630 J	350 U	360 U	360 U	360 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01802	47S01901	47S02001	47S02002	47S02101	47S02201	47S02202	47S02301	47S02302
Sampling Date	4/14/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97
Butylbenzylphthalate	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Carbazole	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Chrysene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Di-n-butylphthalate	84 J	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Di-n-octylphthalate	380 U	350 U	360 U	350 U	5900 U	43 J	360 U	360 U	360 U
Dibenz(a,h)anthracene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Dibenzofuran	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Diethylphthalate	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Dimethylphthalate	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Fluoranthene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Fluorene	380 U	350 U	360 U	350 U	9300 J	350 U	360 U	360 U	360 U
Hexachlorobenzene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Hexachlorobutadiene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Hexachlorocyclopentadiene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Hexachloroethane	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Indeno(1,2,3-cd)pyrene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Isophorone	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
N-Nitroso-di-n-propylamine	380 U	350 U	360 U	350 U	5900 UJ	350 U	360 U	360 U	360 U
N-Nitrosodiphenylamine (1)	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Naphthalene	380 U	350 U	360 U	350 U	2500 J	350 U	360 U	360 U	360 U
Nitrobenzene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Pentachlorophenol	960 U	880 U	900 U	880 U	15000 U	880 U	900 U	910 U	900 U
Phenanthrene	380 U	350 U	360 U	350 U	25000	350 U	360 U	360 U	360 U
Phenol	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Pyrene	380 U	350 U	360 U	350 U	5900 U	350 U	360 U	360 U	360 U
Pesticides/PCB, ug/kg									
4,4'-DDD	57 J	8100	2800 J	190 J	3100000	30 J	6100	47 J	13
4,4'-DDE	20	6200	6400	300	26000 J	46	120 J	110	99
4,4'-DDT	18 J	7400	11000	480	370 J	53	350 U	160	12
Aldrin	98 U	28 J	91 U	18 U	4500 J	36 U	180 U	18 U	015 J
alpha-BHC	98 U	9 U	91 U	18 U	61000 J	36 U	150 J	032 J	01 J
alpha-Chlordane	98 U	1300	240	31 J	280000	7	690 J	27	10
Aroclor-1016	190 U	170 U	1800 U	35 U	5800 U	70 U	3500 U	36 U	36 U
Aroclor-1221	390 U	360 U	3600 U	70 U	12000 U	140 U	7200 U	72 U	72 U
Aroclor-1232	190 U	170 U	1800 U	35 U	5800 U	70 U	3500 U	36 U	36 U
Aroclor-1242	190 U	170 U	1800 U	35 U	5800 U	70 U	3500 U	36 U	36 U
Aroclor-1248	190 U	170 U	1800 U	35 U	5800 U	70 U	3500 U	36 U	36 U

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01802	47S01901	47S02001	47S02002	47S02101	47S02201	47S02202	47S02301	47S02302
Sampling Date	4/14/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97
Aroclor-1254	190 U	170 U	1800 U	35 U	5800 U	70 U	3500 U	36 U	36 U
Aroclor-1260	190 U	170 U	1800 U	35 U	5800 U	70 U	3500 U	36 U	36 U
beta-BHC	9 8 U	9 U	91 U	1 8 U	17000 J	3 6 U	130 J	1 8 U	1 8 U
delta-BHC	9 8 U	9 U	91 U	1 8 U	77000 J	3 6 U	350	1 5 J	0 62 J
Dieldrin	1 3 J	190 J	150 J	4 J	77000 J	5 8 J	260 J	2 2 J	0 52 J
Endosulfan I	9 8 U	12 J	91 U	1 8 U	300 U	3 6 U	180 U	0 27 J	1 8 U
Endosulfan II	19 U	17 U	180 U	3 5 U	580 U	7 U	350 U	3 6 U	3 6 U
Endosulfan sulfate	19 U	17 U	180 U	3 5 U	580 U	7 U	350 U	3 6 U	3 6 U
Endrin	19 U	520 J	180 U	3 5 U	94000 J	6 4 J	170 J	3 6 U	2 J
Endrin aldehyde	19 U	18 J	180 U	3 5 U	580 U	7 U	350 U	0 68 J	3 6 U
Endrin ketone	19 U	17 U	180 U	0 59 J	73 J	7 U	350 U	3 6 U	3 6 U
gamma-BHC (Lindane)	9 8 U	9 U	91 U	1 8 U	650 J	3 6 U	180 U	1 8 U	1 8 U
gamma-Chlordane	9 8 U	1400	270	5 6 J	310000	6 3	720 J	28	11
Heptachlor	9 8 U	9 U	91 U	1 8 U	300 U	3 6 U	180 U	4 6	0 68 J
Heptachlor epoxide	9 8 U	6 2 J	91 U	0 42 J	4200 J	3 6 U	180 U	1 4 J	1 8 U
Methoxychlor	98 U	90 U	910 U	18 U	3000 U	36 U	1800 U	18 U	18 U
Toxaphene	980 U	900 U	9100 U	180 U	30000 U	360 U	18000 U	180 U	180 U
Herbicides, ug/kg									
2,4,5-TP (Silvex)	4 J	10 U	11 U	11 J	36 U	21 U	11 U	22 U	10 J
2,4,5-T	7 9 J	90 J	14 UJ	2 6 U	3100 J	21 J	14 UJ	2 7 UJ	2 7 UJ
2,4-D	14	26 U	27 U	5 3 U	520 J	5 3 U	27 U	22 J	5 4 U
2,4-DB	79 J	2000 U	1500 J	26 U	440 U	26 U	140 U	27 U	27 U
Dalapon	29 U	130 U	140 U	26 U	440 U	26 U	140 U	27 U	27 U
Dicamba	2 9 U	64	76 J	42 J	240 J	19 J	14 U	19 J	36 J
Dichloroprop	55 J	220	43 U	48 J	140 U	95 J	43 U	25 J	8 6 U
Dinoseb	12 J	26 U	27 U	5 3 U	89 U	39 J	27 U	12 J	17 J
MCPA	16000 J	1000 U	150000 J	210 U	4600000 J	210 U	1100 U	98000	220 U
CPP	8400 J	1600 U	1600 U	320 U	5300 U	320 U	1600 U	330 U	320 U
Inorganics, mg/kg									
Aluminum	1210	1660	816	2100	5240	1770	1950	934	1690
Antimony	0 56 UJ	0 63 J	0 52 U	0 51 U	21 3 J	1 1 U	0 52 U	0 53 U	0 52 U
Arsenic	1 5 U	1 7 J	0 61 U	0 88 J	1570	77 4	65 3	8 8	17 2
Barium	8 6 J	75 6	6 2 J	1 5 J	305	3 J	1 8 J	7 6 J	2 J
Beryllium	0 12 U	0 29 U	0 04 U	0 04 U	0 65 J	0 04 U	0 04 U	0 04 U	0 04 U
Cadmium	0 21 U	2 3	0 25 U	0 08 U	15 4	0 09 U	0 09 U	0 09 U	0 09 U
Calcium	4570 J	41900	87900	2420	18000	664 J	134 J	115000	10000
Chromium	2 2 J	8	4 8	1 7 J	463	27	1 7 J	4 8	2 1 J

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S01802	47S01901	47S02001	47S02002	47S02101	47S02201	47S02202	47S02301	47S02302
Sampling Date	4/14/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97	4/17/97
Cobalt	0 49 U	0 4 J	0 19 U	0 19 U	2 J	0 19 U	0 2 U	0 2 U	0 2 U
Copper	1 6 J	11 5	4 4 J	0 72 J	155	1 8 J	0 82 J	2 5 J	0 94 J
Iron	148	993 J	265 J	300 J	9240 J	280 J	175 J	211 J	178 J
Lead	6 9	83 3	35 8	3 2	2040	7 4	2 4	11 2	2 9
Magnesium	56 2 J	2010	616 J	70 8 J	3230	44 7 J	21 9 J	676 J	81 2 J
Manganese	3 6	55 9	15 5	2 4 J	114	5 7	1 J	17	22 J
Mercury	0 07 U	0 11	0 05 U	0 05 U	0 41	0 06 J	0 05 U	0 05 J	0 05 U
Nickel	0 43 U	3 3 J	0 79 J	0 5 J	14 J	0 61 J	0 64 J	0 47 J	0 71 J
Potassium	41 1 U	220 J	64 3 J	45 4 J	600 J	42 9 J	44 2 J	66 7 J	43 9 J
Selenium	2 3 U	0 91 U	0 93 U	0 91 U	1 5 U	0 92 U	0 94 U	0 94 U	0 94 U
Silver	0 37 U	0 82 J	0 15 U	0 15 U	0 46 J	0 15 U	0 15 U	0 15 U	0 15 U
Sodium	264 U	340 U	351 U	319 U	706 J	310 U	355 U	392 U	284 U
Thallium	3 U	1 2 U	1 2 U	1 2 U	2 U	1 2 U	1 2 U	1 2 U	1 2 U
Vanadium	1 J	2 6 J	2 6 J	2 J	20 2	1 1 J	1 J	2 3 J	1 J
Zinc	13 3 J	59 3	8 5	1 7 J	1100	18	4 2 J	11 3	2 8 J

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02401	47S02402	47S02501	47S02501D	47S02502	47S02502D	47S02601	47S02701	47S02801
Sampling Date	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	5/8/97	5/8/97
Volatile Organics, ug/kg									
1,1,1-Trichloroethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
1,1,2-Trichloroethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
1,1-Dichloroethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
1,1-Dichloroethene	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
1,2-Dichloroethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
1,2-Dichloroethene (total)	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
1,2-Dichloropropane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
2-Butanone	NA	NA	NA	NA	11 UJ	11 UJ	11 UJ	21 UJ	12 UJ
2-Hexanone	NA	NA	NA	NA	11 U	11 U	11 U	21 UJ	12 UJ
4-Methyl-2-pentanone	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Acetone	NA	NA	NA	NA	21 UJ	29 UJ	59 UJ	21 UJ	12 UJ
Benzene	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Bromodichloromethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Bromoform	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Bromomethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Carbon disulfide	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Carbon tetrachloride	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Chlorobenzene	NA	NA	NA	NA	11 U	11 U	6 J	21 U	12 U
Chloroethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Chloroform	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Chloromethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
cis-1,3-Dichloropropene	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Dibromochloromethane	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Ethylbenzene	NA	NA	NA	NA	11 U	11 U	13	21 U	12 U
Methylene chloride	NA	NA	NA	NA	11 U	11 U	11 U	7 J	3 J
Styrene	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Tetrachloroethene	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Toluene	NA	NA	NA	NA	11 U	11 U	2 J	21 U	12 U
trans-1,3-Dichloropropene	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Trichloroethene	NA	NA	NA	NA	11 U	11 U	1 J	21 U	12 U
Vinyl chloride	NA	NA	NA	NA	11 U	11 U	11 U	21 U	12 U
Xylene (total)	NA	NA	NA	NA	11 U	11 U	110	21 U	12 U
Semivolatile Organics, ug/kg									
1,2,4-Trichlorobenzene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
1,2-Dichlorobenzene	NA	NA	350 U	350 U	350 U	350 U	2600 J	690 U	410 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02401	47S02402	47S02501	47S02501D	47S02502	47S02502D	47S02601	47S02701	47S02801
Sampling Date	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	5/8/97	5/8/97
1,3-Dichlorobenzene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
1,4-Dichlorobenzene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2,2'-oxybis(1-Chloropropane)	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 UJ	410 UJ
2,4,5-Trichlorophenol	NA	NA	880 U	880 U	870 U	890 U	8800 U	1700 U	1000 U
2,4,6-Trichlorophenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2,4-Dichlorophenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2,4-Dimethylphenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2,4-Dinitrophenol	NA	NA	880 U	880 U	870 U	890 U	8800 U	1700 U	1000 U
2,4-Dinitrotoluene	NA	NA	350 U	350 U	350 U	36 J	3500 U	690 U	410 U
2,6-Dinitrotoluene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2-Chloronaphthalene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2-Chlorophenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2-Methylnaphthalene	NA	NA	350 U	350 U	350 U	350 U	720 J	690 U	410 U
2-Methylphenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
2-Nitroaniline	NA	NA	880 U	880 U	870 U	890 U	8800 U	1700 UJ	1000 U
2-Nitrophenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
3,3'-Dichlorobenzidine	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
3-Nitroaniline	NA	NA	880 U	880 U	870 U	890 U	8800 U	1700 U	1000 U
4,6-Dinitro-2-methylphenol	NA	NA	880 U	880 U	870 U	890 U	8800 U	1700 U	1000 U
4-Bromophenyl-phenylether	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
4-Chloro-3-methylphenol	NA	NA	350 U	36 J	350 U	59 J	3500 U	690 U	410 U
4-Chloroaniline	NA	NA	350 U	350 U	350 U	350 U	3000 J	690 U	410 U
4-Chlorophenyl-phenylether	NA	NA	350 U	350 U	350 U	350 U	3500 UJ	690 U	410 U
4-Methylphenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
4-Nitroaniline	NA	NA	880 U	880 U	870 U	890 U	8800 U	1700 U	1000 UJ
4-Nitrophenol	NA	NA	880 UJ	40 J	870 UJ	60 J	8800 UJ	1700 UJ	1000 UJ
Acenaphthene	NA	NA	350 U	350 U	350 U	38 J	3500 U	690 U	410 U
Acenaphthylene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Anthracene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Benzo(a)anthracene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	230 J
Benzo(a)pyrene	NA	NA	350 U	350 U	350 U	350 U	3500 U	56 J	290 J
Benzo(b)fluoranthene	NA	NA	350 U	350 U	350 U	350 U	3500 U	100 J	760 J
Benzo(g,h,i)perylene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	39 J
Benzo(k)fluoranthene	NA	NA	350 U	350 U	350 U	350 U	3500 U	110 J	810 J
bis(2-Chloroethoxy)methane	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
bis(2-Chloroethyl)ether	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
bis(2-Ethylhexyl)phthalate	NA	NA	43 J	350 U	350 U	350 U	750 J	52 J	420

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02401	47S02402	47S02501	47S02501D	47S02502	47S02502D	47S02601	47S02701	47S02801
Sampling Date	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	5/8/97	5/8/97
Butylbenzylphthalate	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	47 J
Carbazole	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	35 J
Chrysene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	390 J
Di-n-butylphthalate	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Di-n-octylphthalate	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Dibenz(a,h)anthracene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	30 J
Dibenzofuran	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Diethylphthalate	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Dimethylphthalate	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Fluoranthene	NA	NA	350 U	350 U	350 U	350 U	3500 U	99 J	480
Fluorene	NA	NA	350 U	350 U	350 U	350 U	3500 UJ	690 U	410 U
Hexachlorobenzene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Hexachlorobutadiene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Hexachlorocyclopentadiene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Hexachloroethane	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Indeno(1,2,3-cd)pyrene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	110 J
Isophorone	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
N-Nitroso-di-n-propylamine	NA	NA	350 U	350 U	350 U	40 J	3500 UJ	690 UJ	410 UJ
N-Nitrosodiphenylamine (1)	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Naphthalene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Nitrobenzene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Pentachlorophenol	NA	NA	880 U	880 U	870 U	54 J	8800 U	1700 U	1000 U
Phenanthrene	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	120 J
Phenol	NA	NA	350 U	350 U	350 U	350 U	3500 U	690 U	410 U
Pyrene	NA	NA	350 U	350 U	350 U	50 J	400 J	100 J	430
Pesticides/PCB, ug/kg									
4,4'-DDD	9 2 J	1 7 J	170 J	12 J	1 3 J	12	5200 J	6800	13 J
4,4'-DDE	44	5 4	600	160	7 4	8 2	170 U	890	180 J
4,4'-DDT	45	7 9	920 J	190	11	12	170 U	2000	84 J
Aldrin	1 8 U	1 8 U	18 U	9 U	1 8 U	0 37 J	310 J	180 U	2 1 U
alpha-BHC	1 8 U	1 8 U	2 2 J	9 U	1 8 U	1 8 U	62 J	180 U	2 1 U
alpha-Chlordane	1 3 J	1 8 U	93 J	28 J	0 57 J	0 86 J	24000	560 J	5 4 J
Aroclor-1016	35 U	35 U	350 U	170 U	35 U	35 U	1700 U	3500 U	41 U
Aroclor-1221	71 U	71 U	710 U	360 U	70 U	72 U	3500 U	7100 U	82 U
Aroclor-1232	35 U	35 U	350 U	170 U	35 U	35 U	1700 U	3500 U	41 U
Aroclor-1242	35 U	35 U	350 U	170 U	35 U	35 U	1700 U	3500 U	41 U
Aroclor-1248	35 U	35 U	350 U	170 U	35 U	35 U	1700 U	3500 U	41 U

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02401	47S02402	47S02501	47S02501D	47S02502	47S02502D	47S02601	47S02701	47S02801
Sampling Date	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	5/8/97	5/8/97
Aroclor-1254	35 U	35 U	350 U	170 U	35 U	35 U	1700 U	3500 U	41 U
Aroclor-1260	35 U	35 U	350 U	170 U	35 U	35 U	1700 U	3500 U	41 U
beta-BHC	18 U	18 U	18 U	9 U	18 U	18 U	90 U	180 U	21 U
delta-BHC	073 J	18 U	18 U	9 U	058 J	064 J	870 J	180 U	21 U
Dieldrin	24 J	022 J	45 J	15 J	067 J	17 J	350 J	120 J	12 J
Endosulfan I	18 U	18 U	18 U	9 U	18 U	18 U	90 U	180 U	21 U
Endosulfan II	35 U	35 U	35 U	17 U	35 U	35 U	170 U	350 U	41 U
Endosulfan sulfate	35 U	35 U	35 U	17 U	35 U	35 U	170 U	350 U	074 J
Endrin	18 J	35 U	24 J	17 U	35 U	35 U	170 U	350 U	41 U
Endrin aldehyde	2 J	35 U	35 U	17 U	35 U	35 U	170 U	350 U	11 J
Endrin ketone	35 U	35 U	35 U	17 U	35 U	35 U	170 U	350 U	41 U
gamma-BHC (Lindane)	18 U	18 U	18 U	9 U	18 U	037 J	66 J	180 U	21 U
gamma-Chlordane	14 J	18 U	18 U	9 U	18 U	18 U	27000	550 J	11
Heptachlor	18 U	18 U	18 U	042 J	18 U	044 J	90 U	180 U	1 J
Heptachlor epoxide	18 U	18 U	52 J	26 J	18 U	18 U	90 U	180 U	15
Methoxychlor	096 J	18 U	180 U	90 U	18 U	18 U	900 U	1800 U	21 UJ
Toxaphene	180 U	180 U	1800 U	900 U	180 U	180 U	9000 U	18000 U	210 U
Herbicides, ug/kg									
2,4,5-TP (Silvex)	21 U	21 U	15 J	21 U	10 U	21 U	82 J	NA	NA
2,4,5-T	26 UJ	26 UJ	22 J	26 U	110 J	27 UJ	2400 J	NA	NA
2,4-D	15 J	53 U	53 U	53 UJ	26 U	54 U	26 U	NA	NA
2,4-DB	110 J	26 U	280 J	260 J	130 U	27 U	6800 J	NA	NA
Dalapon	26 U	26 U	26 U	26 U	130 U	27 U	130 U	NA	NA
Dicamba	24 J	26 U	26 U	26 U	13 U	20 J	58 J	NA	NA
Dichloroprop	85 U	84 U	17 J	52 J	42 U	47 J	42 U	NA	NA
Dinoseb	21 J	58 J	53 U	53 U	82 J	89 J	1600	NA	NA
MCPPA	210 U	210 U	210 U	210 U	56000 J	210 U	1000 U	NA	NA
MCPP	320 U	320 U	320 U	320 U	1600 U	320 U	200000 J	NA	NA
Inorganics, mg/kg									
Aluminum	867	1610	801 J	675 J	1620	1600	1920	2200 J	1680 J
Antimony	051 U	051 U	051 U	051 U	051 U	052 U	16 J	1 U	059 U
Arsenic	06 U	06 U	079 J	059 U	205	198	393	3 U	073 U
Barium	55 J	18 J	8 J	7 J	18 J	19 J	512	343 J	145 J
Beryllium	004 U	005 U	008 U	005 U	004 U	004 U	029 U	018 U	017 U
Cadmium	019 U	009 U	033 U	026 U	008 U	009 U	16	14 J	067 J
Calcium	683 J	261 J	1030 J	908 J	383 J	412 J	70000	7870	18600
Chromium	25	15 J	96 J	28 J	17 J	17 J	263	14	86

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02401	47S02402	47S02501	47S02501D	47S02502	47S02502D	47S02601	47S02701	47S02801
Sampling Date	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	4/18/97	5/8/97	5/8/97
Cobalt	0 19 U	0 19 U	0 19 U	0 19 U	0 19 U	0 19 U	1 4 J	1 6 J	0 41 J
Copper	7 8	0 9 J	3 8 J	3 3 J	1 6 J	2 1 J	4990	25 6	13 5
Iron	220 J	144 J	384	294	141 J	121 J	25300 J	2390	1500
Lead	24 8	3 4	43 J	27 2 J	2 4	2 8	2820	196	83 2
Magnesium	60 8 J	23 8 J	110 J	94 2 J	23 J	27 2 J	17400	586 J	566 J
Manganese	7 7	1 1 J	15 9	13 9	0 89 J	1 J	152	44 7	79 9
Mercury	0 05 J	0 05 U	0 05 U	0 05 U	0 05 U	0 05 U	0 05 U	0 11 U	0 07 U
Nickel	9 1	2 4 J	7 7 J	0 91 J	0 42 J	0 49 J	14 4	9 1 J	3 4 J
Potassium	42 8 J	37 6 J	111 J	55 4 J	32 7 U	33 6 U	268 J	170 J	176 J
Selenium	0 92 U	0 91 U	0 91 U	0 91 U	0 91 U	0 93 U	1 2	1 8 U	1 1 U
Silver	0 15 U	0 15 U	0 15 U	0 15 U	0 15 U	0 15 U	0 51 J	0 3 U	0 17 U
Sodium	340 J	315 U	387 J	326 U	328 U	308 U	589 J	775 J	378 U
Thallium	1.2 U	1 2 U	1 2 U	1 2 U	1 2 U	1 2 U	1 2 U	2 3 U	1 4 U
Vanadium	2 J	1 J	2 J	2 J	1 J	1 J	9 J	10 J	5 J
Zinc	16 8	3 J	21 J	15 2 J	2 J	25 J	417	356 J	271 J

Appendix B-1

Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02901	47S02901D	47S02902	47S03001	47S03002	47S03101	47S03102
Sampling Date	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97
Volatile Organics, ug/kg							
1,1,1-Trichloroethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
1,1,2,2-Tetrachloroethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
1,1,2-Trichloroethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
1,1-Dichloroethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
1,1-Dichloroethene	11 UJ	11 UJ	11 UJ	11 UJ	12 UJ	11 UJ	12 U
1,2-Dichloroethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
1,2-Dichloroethene (total)	11 UJ	11 UJ	11 UJ	11 UJ	12 UJ	11 UJ	12 U
1,2-Dichloropropane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
2-Butanone	11 U	11 U	11 U	11 U	12 U	11 U	12 UJ
2-Hexanone	11 UJ	11 UJ	11 UJ	11 UJ	12 UJ	11 UJ	12 U
4-Methyl-2-pentanone	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Acetone	13 U	11 U	11 U	13 U	12 U	13 U	17 UJ
Benzene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Bromodichloromethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Bromoform	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Bromomethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Carbon disulfide	11 UJ	11 UJ	11 UJ	11 UJ	12 UJ	11 UJ	12 U
Carbon tetrachloride	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Chlorobenzene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Chloroethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Chloroform	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Chloromethane	11 U	11 U	11 U	11 U	12 U	11 U	12 UJ
cis-1,3-Dichloropropene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Dibromochloromethane	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Ethylbenzene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Methylene chloride	11 UJ	11 UJ	11 UJ	11 UJ	12 UJ	11 UJ	35 UJ
Styrene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Tetrachloroethene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Toluene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
trans-1,3-Dichloropropene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Trichloroethene	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Vinyl chloride	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Xylene (total)	11 U	11 U	11 U	11 U	12 U	11 U	12 U
Semivolatile Organics, ug/kg							
1,2,4-Trichlorobenzene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
1,2-Dichlorobenzene	350 U	360 U	370 U	350 U	390 U	370 U	390 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02901	47S02901D	47S02902	47S03001	47S03002	47S03101	47S03102
Sampling Date	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97
1,3-Dichlorobenzene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
1,4-Dichlorobenzene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2,2'-oxybis(1-Chloropropane)	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2,4,5-Trichlorophenol	890 U	900 U	940 U	870 U	980 U	920 U	980 U
2,4,6-Trichlorophenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2,4-Dichlorophenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2,4-Dimethylphenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2,4-Dinitrophenol	890 U	900 U	940 U	870 U	980 U	920 U	980 U
2,4-Dinitrotoluene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2,6-Dinitrotoluene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2-Chloronaphthalene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2-Chlorophenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2-Methylnaphthalene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2-Methylphenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
2-Nitroaniline	890 U	900 U	940 U	870 U	980 U	920 U	980 U
2-Nitrophenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
3,3'-Dichlorobenzidine	350 U	360 UJ	370 UJ	350 UJ	390 UJ	370 UJ	390 UJ
3-Nitroaniline	890 U	900 U	940 U	870 U	980 U	920 U	980 U
4,6-Dinitro-2-methylphenol	890 U	900 U	940 U	870 U	980 U	920 U	980 U
4-Bromophenyl-phenylether	350 U	360 U	370 U	350 U	390 U	370 U	390 U
4-Chloro-3-methylphenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
4-Chloroaniline	350 U	360 U	370 U	350 U	390 U	370 U	390 U
4-Chlorophenyl-phenylether	350 U	360 U	370 U	350 U	390 U	370 U	390 U
4-Methylphenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
4-Nitroaniline	890 U	900 U	940 U	870 U	980 U	920 U	980 U
4-Nitrophenol	890 U	900 U	940 U	870 U	980 U	920 U	980 U
Acenaphthene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Acenaphthylene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Anthracene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Benzo(a)anthracene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Benzo(a)pyrene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Benzo(b)fluoranthene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Benzo(g,h,i)perylene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Benzo(k)fluoranthene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
bis(2-Chloroethoxy)methane	350 U	360 U	370 U	350 U	390 U	370 U	390 U
bis(2-Chloroethyl)ether	350 U	360 U	370 U	350 U	390 U	370 U	390 U
bis(2-Ethylhexyl)phthalate	350 U	360 U	370 U	350 U	390 U	370 U	390 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02901	47S02901D	47S02902	47S03001	47S03002	47S03101	47S03102
Sampling Date	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97
Butylbenzylphthalate	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Carbazole	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Chrysene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Di-n-butylphthalate	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Di-n-octylphthalate	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Dibenz(a,h)anthracene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Dibenzofuran	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Diethylphthalate	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Dimethylphthalate	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Fluoranthene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Fluorene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Hexachlorobenzene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Hexachlorobutadiene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Hexachlorocyclopentadiene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Hexachloroethane	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Indeno(1,2,3-cd)pyrene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Isophorone	350 U	360 U	370 U	350 U	390 U	370 U	390 U
N-Nitroso-di-n-propylamine	350 U	360 U	370 U	350 U	390 U	370 U	390 U
N-Nitrosodiphenylamine (1)	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Naphthalene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Nitrobenzene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Pentachlorophenol	890 U	900 U	940 U	870 U	980 U	920 U	980 U
Phenanthrene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Phenol	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Pyrene	350 U	360 U	370 U	350 U	390 U	370 U	390 U
Pesticides/PCB, ug/kg							
4,4'-DDD	14 J	23 J	8 7 J	0 5 J	3 9 U	0 26 J	0 18 J
4,4'-DDE	200 J	280	35 J	21 J	1 4 J	3 2 J	0 59 J
4,4'-DDT	150	220	56	1 4 J	1 2 J	2 5 J	0 74 J
Aldrin	36 U	37 U	4 5 J	1 8 U	2 U	0 17 J	2 U
alpha-BHC	36 U	37 U	9 7 U	1 8 U	2 U	1 9 U	2 U
alpha-Chlordane	1000 J	1200	130 J	0 99 J	1 1 J	1 9 U	1 1 J
Aroclor-1016	710 U	710 U	190 U	35 U	39 U	36 U	39 U
Aroclor-1221	1400 U	1400 U	380 U	71 U	78 U	74 U	79 U
Aroclor-1232	710 U	710 U	190 U	35 U	39 U	36 U	39 U
Aroclor-1242	710 U	710 U	190 U	35 U	39 U	36 U	39 U
Aroclor-1248	710 U	710 U	190 U	35 U	39 U	36 U	39 U

Appendix B-1

**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02901	47S02901D	47S02902	47S03001	47S03002	47S03101	47S03102
Sampling Date	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97
Aroclor-1254	710 U	710 U	190 U	35 U	39 U	36 U	39 U
Aroclor-1260	710 U	710 U	190 U	35 U	39 U	36 U	39 U
beta-BHC	36 U	24 J	97 U	18 U	2 U	19 U	2 U
delta-BHC	36 U	37 U	97 U	04 J	2 U	19 U	2 U
Dieldrin	34 J	71 U	46	038 J	038 J	042 J	031 J
Endosulfan I	36 U	37 U	97 U	18 U	2 U	19 U	2 U
Endosulfan II	71 U	71 U	19 U	35 U	39 U	36 U	39 U
Endosulfan sulfate	33 J	71 U	19 U	35 U	39 U	36 U	39 U
Endrin	27 J	30 J	14 J	033 J	39 U	041 J	031 J
Endrin aldehyde	71 U	71 U	19 U	35 U	39 U	36 U	39 U
Endrin ketone	71 U	71 U	19 U	35 U	39 U	36 U	39 U
gamma-BHC (Lindane)	11 J	1 J	51 J	18 U	2 U	014 J	01 J
gamma-Chlordane	950 J	1000 J	120 J	089 J	1 J	018 J	092 J
Heptachlor	36 U	37 U	97 U	016 J	2 U	19 U	016 J
Heptachlor epoxide	26 J	30 J	97 U	18 U	042 J	19 U	2 U
Methoxychlor	360 U	370 U	97 U	18 U	20 U	19 U	20 U
Toxaphene	3600 U	3700 U	970 U	180 U	200 U	190 U	200 U
Herbicides, ug/kg							
2,4,5-TP (Silvex)	2 U	22 U	23 U	21 U	7 J	22 U	24 U
2,4,5-T	25 U	27 U	29 U	26 U	37 J	17 J	29 U
2,4-D	5 U	61 J	57 U	53 U	58 U	55 U	59 U
2,4-DB	25 U	27 U	29 U	26 U	170 J	180 J	110 J
Dalapon	25 U	27 U	29 U	26 U	29 U	99 J	29 U
Dicamba	19 J	27 U	160 J	26 U	29 U	28 U	29 U
Dichloroprop	8 U	87 U	92 U	85 U	93 U	49 J	94 U
Dinoseb	5 U	54 U	57 U	53 U	58 U	37 J	59 U
MCPA	93000 J	150000 J	27000 J	33000 J	35000 J	76000 J	240 U
CPP	250000 J	360000 J	320000 J	52000 J	89000 J	160000 J	96000 J
Inorganics, mg/kg							
Aluminum	307 J	337 J	1690 J	122 J	476 J	1170 J	1470 J
Antimony	037 U	038 U	039 U	036 U	04 U	038 U	04 U
Arsenic	2 J	18 J	62	058 U	063 U	06 U	064 U
Barium	63 J	65 J	45 J	4 J	39 J	72 J	32 J
Beryllium	003 U	002 U	003 U	002 U	002 U	002 U	002 U
Cadmium	011 U	017 U	007 U	019 U	007 U	007 U	007 U
Calcium	936 J	2730	993 J	306 J	394 J	737 J	195 J
Chromium	19 J	22 J	25	093 J	18 J	21 J	19 J

Appendix B-1**Summary of Surface Soil Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47S02901	47S02901D	47S02902	47S03001	47S03002	47S03101	47S03102
Sampling Date	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97
Cobalt	0 13 U	0 13 U	0 14 U	0 27 J	0 14 U	0 13 U	0 14 U
Copper	2 8 J	2 9 J	1 1 J	1 J	0 82 J	1 5 J	0 66 J
Iron	273	300	147	138	138	217	199
Lead	10 9	12	3 7	3 1	3 1	9 4	2 2
Magnesium	37 6 J	67 3 J	27 3 J	17 J	26 3 J	38 4 J	36 2 J
Manganese	6 7	7 7	8 2	6 4	7 3	5 6	3 5 J
Mercury	0 07 J	0 06 J	0 06 U	0 05 U	0 06 U	0 11 J	0 06 U
Nickel	0 83 J	0 57 J	0 52 J	0 37 J	0 5 J	0 44 J	0 87 J
Potassium	26 8 U	32 3 U	38 4 J	27 4 U	34 5 U	27 1 U	34 2 U
Selenium	0 7 J	0 62 U	0 64 U	0 6 U	0 65 U	0 62 U	0 67 U
Silver	0 09 U	0 09 U	0 09 U	0 09 U	0 09 U	0 09 U	0 1 U
Sodium	195 U	229 U	256 U	257 U	232 U	204 U	285 U
Thallium	1 U	1 U	1 1 U	1 U	1 1 U	2 2 U	1 1 U
Vanadium	1 J	1 J	1 J	1 J	1 J	2 J	1 J
Zinc	7 8 J	12 1 J	1 6 J	0 99 J	1 8 J	8 4 J	1 4 J

Appendix B-2

**Summary of Groundwater Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47G00101	47G00201	47G00301
Sampling Date	4/22/97	5/7/97	8/13/97
Volatile organics, ug/L			
1,1,1-Trichloroethane	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U
1,2-Dichloroethane	10 UJ	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	6 J
1,2-Dichloropropane	10 U	10 U	10 U
2-Butanone	10 UJ	10 UJ	10 U
2-Hexanone	10 U	10 UJ	10 U
4-Methyl-2-pentanone	10 U	10 UJ	10 U
Acetone	10 UJ	10 U	22
Benzene	10 U	10 U	2 J
Bromodichloromethane	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	6 J
Chloroethane	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U
Chloromethane	10 UJ	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	7 J
Methylene chloride	10 U	10 U	10 U
Styrene	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U
Toluene	10 U	10 U	2 J
trans-1,3-Dichloropropene	10 U	10 U	10 U
Trichloroethene	10 U	10 U	5 J
Vinyl chloride	10 U	10 U	10 U
Xylene (total)	10 U	10 U	21
Semivolatile organics, ug/L			
1,2,4-Trichlorobenzene	10 U	10 U	50 U
1,2-Dichlorobenzene	10 U	10 U	50 U
1,3-Dichlorobenzene	10 U	10 U	50 U
1,4-Dichlorobenzene	10 U	10 U	50 U

Appendix B-2

**Summary of Groundwater Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47G00101	47G00201	47G00301
Sampling Date	4/22/97	5/7/97	8/13/97
2,2'-oxybis(1-Chloropropane)	10 U	10 U	50 U
2,4,5-Trichlorophenol	25 U	25 U	8 J
2,4,6-Trichlorophenol	10 U	10 U	50 U
2,4-Dichlorophenol	10 U	10 U	50 U
2,4-Dimethylphenol	10 U	10 U	50 U
2,4-Dinitrophenol	25 U	25 U	120 U
2,4-Dinitrotoluene	10 U	10 U	50 U
2,6-Dinitrotoluene	10 U	10 U	50 U
2-Chloronaphthalene	10 U	10 U	50 U
2-Chlorophenol	10 U	10 U	50 U
2-Methylnaphthalene	10 U	10 U	40 J
2-Methylphenol	10 U	10 U	50 U
2-Nitroaniline	25 U	25 U	120 U
2-Nitrophenol	10 U	10 U	50 U
3,3'-Dichlorobenzidine	10 U	10 UJ	50 U
3-Nitroaniline	25 U	25 U	120 U
4,6-Dinitro-2-methylphenol	25 U	25 U	120 U
4-Bromophenyl-phenylether	10 U	10 U	50 U
4-Chloro-3-methylphenol	10 U	10 U	50 U
4-Chloroaniline	10 U	10 U	50 U
4-Chlorophenyl-phenylether	10 U	10 U	50 U
4-Methylphenol	10 U	10 U	16 J
4-Nitroaniline	25 U	25 U	120 U
4-Nitrophenol	25 U	25 U	120 UJ
Acenaphthene	10 U	10 U	6 J
Acenaphthylene	10 U	10 U	50 U
Anthracene	10 U	10 U	50 U
Benzo(a)anthracene	10 U	10 U	50 U
Benzo(a)pyrene	10 U	10 U	50 U
Benzo(b)fluoranthene	10 U	10 U	50 U
Benzo(g,h,i)perylene	10 U	10 U	50 U
Benzo(k)fluoranthene	10 U	10 U	50 U
bis(2-Chloroethoxy)methane	10 U	10 U	50 U
bis(2-Chloroethyl)ether	10 U	10 U	50 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	50 U
Butylbenzylphthalate	10 U	10 U	50 U
Carbazole	10 U	10 U	50 U
Chrysene	10 U	10 U	50 U
Di-n-butylphthalate	10 U	10 U	50 U

Appendix B-2

**Summary of Groundwater Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47G00101	47G00201	47G00301
Sampling Date	4/22/97	5/7/97	8/13/97
Di-n-octylphthalate	10 U	10 U	50 U
Dibenz(a,h)anthracene	10 U	10 U	50 U
Dibenzofuran	10 U	10 U	50 U
Diethylphthalate	10 U	10 U	50 U
Dimethylphthalate	10 U	10 U	50 U
Fluoranthene	10 U	10 U	50 U
Fluorene	10 U	10 U	50 U
Hexachlorobenzene	10 U	10 U	50 U
Hexachlorobutadiene	10 U	10 U	50 U
Hexachlorocyclopentadiene	10 U	10 U	50 U
Hexachloroethane	10 U	10 U	50 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	50 U
Isophorone	10 U	10 U	50 U
N-Nitroso-di-n-propylamine	10 U	10 U	50 U
N-Nitrosodiphenylamine (1)	10 U	10 U	50 U
Naphthalene	10 U	10 U	7 J
Nitrobenzene	10 U	10 U	50 U
Pentachlorophenol	25 U	25 U	120 U
Phenanthrene	10 U	10 U	50 U
Phenol	10 U	10 U	50 U
Pyrene	10 U	10 U	50 U
Pesticides/PCBs, ug/L			
4,4'-DDD	0 1	6 1 J	18 J
4,4'-DDE	0 02 J	2 5	0 02 J
4,4'-DDT	0 15	9	0 1 UJ
Aldrin	0 05 U	0 68 J	0 05 UJ
alpha-BHC	0 05 U	0 05 U	3 2 J
alpha-Chlordane	0 05 U	11 J	0 14 J
Aroclor-1016	1 U	1 U	1 UJ
Aroclor-1221	2 U	2 U	2 UJ
Aroclor-1232	1 U	1 U	1 UJ
Aroclor-1242	1 U	1 U	1 UJ
Aroclor-1248	1 U	1 U	1 UJ
Aroclor-1254	1 U	1 U	1 UJ
Aroclor-1260	1 U	1 U	1 UJ
beta-BHC	0 05 U	3 8 J	0 05 UJ
delta-BHC	0 05 U	5 2 J	1 5 J
Dieldrin	0 1 U	0 1 U	0 93 J
Endosulfan I	0 05 U	0 45	0 05 UJ

Appendix B-2**Summary of Groundwater Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47G00101	47G00201	47G00301
Sampling Date	4/22/97	5/7/97	8/13/97
Endosulfan II	0 1 U	0 53 J	0 1 UJ
Endosulfan sulfate	0 1 U	0 1 U	0 02 J
Endrin	0 1 U	3 4 J	1 4 J
Endrin aldehyde	0 1 U	0 1 U	0 06 J
Endrin ketone	0 1 U	0 03 J	0 1 UJ
gamma-BHC (Lindane)	0 05 U	0 24 J	1 3 J
gamma-Chlordane	0 05 U	9 J	0 26 J
Heptachlor	0 05 U	1 1 J	0 05 UJ
Heptachlor epoxide	0 05 U	0 56 U	0 06 J
Methoxychlor	0 5 U	0 5 U	0 02 J
Toxaphene	5 U	5 U	5 UJ
Herbicides, ug/L			
2,4,5-TP (Silvex)	0 001 J	0 08 J	2 1 J
2,4,5-T	0 03 J	0 01 J	0 51 J
2,4-D	0 26 U	1 5 U	7 5 U
2,4-DB	0 07 U	2 3 J	25 U
Dalapon	0 15 U	1 5 J	3 J
Dicamba	4 7 J	0 06 J	91 J
Dichloroprop	2 5 J	2 8 J	17 J
Dinoseb	0 03 J	0 02 J	4 8 J
MCPA	50 U	50 U	2000 J
MCPP	60 U	60 U	6800 J
Inorganics, ug/L			
Aluminum	283 U	1260	200 J
Antimony	2 4 U	6 3 J	3 J
Arsenic	2 8 U	332	17 6
Barium	65 4 J	23 7 J	19 5 J
Beryllium	0 2 U	0 35 U	0 1 U
Cadmium	0 4 U	1 J	0 3 U
Calcium	11800	17600	76100
Chromium	0 9 U	2 5 J	1 7 J
Cobalt	3 1 U	2 7 U	0 75 J
Copper	4 8 J	10 2 J	3 6 U
Iron	2060	469	18700
Lead	2 3 J	2 2 U	3 8
Magnesium	2220 J	791 J	4450 J
Manganese	194	16 2	34
Mercury	0 11 J	0 1 UJ	0 1 U
Nickel	384	6 9 U	3 6 J

Appendix B-2

**Summary of Groundwater Analytical Results
TAL Metals, TCL Organics, and Herbicides
PSC 47**

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	47G00101	47G00201	47G00301
Sampling Date	4/22/97	5/7/97	8/13/97
Potassium	536 J	1750 J	989 J
Selenium	4 3 U	5 8	2 8 U
Silver	0 7 U	0 79 J	0 6 U
Sodium	2870 U	3080 J	2190 J
Thallium	5 5 U	5 5 U	4 7 U
Vanadium	0 8 U	8 8 J	3 9 J
Zinc	24 2 J	30 4	23 8 J

Appendix B

Notes to Full Analytical Results Tables PSC 47

Naval Air Station Jacksonville
Jacksonville, Florida

TAL = Target Analyte List
TCL = Target Compound List
NA = Identified parameter not analyzed
Sample ID = Sample Identifier
Lab ID = Laboratory identifier

Units

mg/kg milligram per kilogram
ug/kg microgram per kilogram
ug/L microgram per liter

The following standard validation qualifiers have the following definitions

- U The analyte/compound was analyzed for but was not detected above the reported sample quantitation limit
The number preceding the U qualifier is the reported sample quantitation limit
- J The analyte/compound was positively identified and the associated numerical value is an estimated concentration of the analyte/compound in the sample
For most detected analytes and compounds, the J qualifier is also used to indicate that the reported concentration is below the contract required detection or quantitation limit
- UJ The analyte/compound was not detected above the reported sample quantitation limit
The reported quantitation limit, however, is approximate and may or may not represent the actual limit of quantitation necessary to accurately measure the analyte/compound in the sample
- R The sample results are rejected during data validation because of serious deficiencies in meeting quality control criteria

APPENDIX C

SUMMARY OF DETECTIONS IN ANALYTICAL RESULTS

APPENDIX C
SUMMARY OF DETECTIONS
PSC 47

Naval Air Station Jacksonville
Jacksonville, FL

Surface Soil

Chemical	Frequency of Detects	Range of Detects	Reported Detection Limits	Average (Detects)	Average (All)	Maximum Detected
Volatile Organic Compounds (ug/kg)						
1,1,1-Trichloroethane	1/29	2 to 2	10 to 26	2	5.9	2
1,1-Dichloroethene	1/29	2 to 2	10 to 26	2	5.9	2
Acetone	8/29	18 to 150	10 to 59	42.1	18.6	150
Benzene	1/29	26 to 26	10 to 26	26	6.4	26
Chlorobenzene	2/29	6 to 110	10 to 26	58	9.4	110
Ethylbenzene	1/29	13 to 13	10 to 26	13	6.3	13
Methylene chloride	8/29	1 to 7	10 to 35	2.1	5.3	7
Toluene	3/29	1 to 11	10 to 26	4.7	5.9	11
Trichloroethene	1/29	1 to 1	10 to 26	1	5.8	1
Xylene (total)	2/29	52 to 410	10 to 26	81	10.9	110
Semivolatile Organic Compounds (ug/kg)						
1,2,4-Trichlorobenzene	1/47	21,000 to 21,000	330 to 5,900	21,000	690	21,000
1,2-Dichlorobenzene	2/47	2,600 to 2,900	330 to 5,900	2,750	323	2,900
1,4-Dichlorobenzene	1/47	4,400 to 4,400	330 to 5,900	4,400	337	4,400
2,4-Dinitrotoluene	1/47	105.5* to 105.5*	330 to 5,900	106	305	106
2-Methylnaphthalene	2/47	720 to 28,000	330 to 5,900	14,360	817	28,000
4-Chloro-3-methylphenol	2/47	105.5* to 117*	330 to 5,900	111	304	117
4-Chloroaniline	2/47	3,000 to 16,000	330 to 5,900	9,500	611	16,000
4-Nitrophenol	2/47	240* to 247.5*	840 to 15,000	244	764	248
Acenaphthene	2/47	106.5* to 13,000	330 to 5,900	6,553	519	13,000
Anthracene	1/47	1,700 to 1,700	330 to 5,900	1,700	280	1,700
Benzo(a)anthracene	3/47	53 to 230	330 to 5,900	114	302	230
Benzo(a)pyrene	5/47	55 to 290	330 to 5,900	120	296	290
Benzo(b)fluoranthene	7/47	51 to 760	330 to 5,900	290	259	760
Benzo(g,h,i)perylene	5/47	39 to 630	330 to 5,900	194	307	630
Benzo(k)fluoranthene	7/47	50 to 810	330 to 5,900	291	260	810
Butylbenzylphthalate	1/47	47 to 47	330 to 5,900	47	303	47
Carbazole	1/47	35 to 35	330 to 5,900	35	303	35
Chrysene	3/47	66 to 390	330 to 5,900	177	306	390
Di-n-butylphthalate	2/47	58 to 84	330 to 5,900	71	302	84
Di-n-octylphthalate	4/47	24 to 43	330 to 5,900	35.8	294	43
Dibenz(a,h)anthracene	1/47	30 to 30	330 to 5,900	30	303	30
Fluoranthene	5/47	26 to 480	330 to 5,900	143	299	480
Fluorene	1/47	9,300 to 9,300	330 to 5,900	9,300	441	9,300
Indeno(1,2,3-cd)pyrene	5/47	29 to 140	330 to 5,900	87.6	296	140
N-Nitroso-di-n-propylamine	1/47	107.5* to 107.5*	330 to 5,900	108	305	108
Naphthalene	1/47	2,500 to 2,500	330 to 5,900	2,500	297	2,500
Pentachlorophenol	1/47	244.5* to 244.5*	840 to 15,000	245	768	245
Phenanthrene	2/47	120 to 25,000	330 to 5,900	12,560	774	25,000
Pyrene	6/47	32 to 430	330 to 5,900	188	270	430
bis(2-Ethylhexyl)phthalate	19/47	31 to 750	330 to 5,900	138	195	750
Pesticides/PCBs (ug/kg)						
4,4'-DDD	53/56	0.18 to 3,100,000	3.5 to 265,000	95,734	90,605	3,100,000
4,4'-DDE	55/56	0.59 to 410,000	8 to 265,000	12,034	11,820	410,000
4,4'-DDT	54/56	0.74 to 12,000,000	8 to 265,000	422,437	407,355	12,000,000
Aldrin	13/56	0.15 to 4,500	1.7 to 54,500	380	1,423	4,500
Dieldrin	43/56	0.22 to 77,000	3.5 to 250,000	2,359	3,499	77,000
Endosulfan I	4/56	0.27 to 280	1.8 to 54,500	73.2	1,351	280

APPENDIX C
SUMMARY OF DETECTIONS
PSC 47

Naval Air Station Jacksonville
 Jacksonville, FL

Surface Soil

Chemical	Frequency of Detects	Range of Detects	Reported Detection Limits	Average (Detects)	Average (All)	Maximum Detected
Endosulfan II	1/56	0.28 to 0.28	3.3 to 105,000	0.28	2,599	0.28
Endosulfan sulfate	3/56	0.74 to 19.4*	3.3 to 105,000	7.6	2,599	19.4
Endrin	29/56	0.31 to 94,000	3.4 to 250,000	4,530	2,375	94,000
Endrin aldehyde	8/56	0.68 to 22	3.4 to 105,000	8.4	2,592	22
Endrin ketone	5/56	0.59 to 73	3.3 to 105,000	19.1	2,594	73
Heptachlor	27/56	0.16 to 12,000	1.8 to 136,000	1,278	708	12,000
Heptachlor epoxide	17/56	0.18 to 4,200	1.7 to 54,500	260	1,420	4,200
Methoxychlor	5/56	0.96 to 8.9	18 to 545,000	3.4	13,468	8.9
alpha-BHC	6/56	0.099 to 61,000	1.7 to 54,500	10,203	2,435	61,000
alpha-Chlordane	50/56	0.26 to 280,000	1.8 to 136,000	9,798	8,749	280,000
beta-BHC	13/56	0.97 to 23,600*	1.7 to 130,000	3,824	1,123	23,600
delta-BHC	16/56	0.037 to 77,000	1.7 to 54,500	5,234	2,698	77,000
gamma-BHC (Lindane)	14/56	0.1 to 650	1.8 to 54,500	54.9	1,352	650
gamma-Chlordane	50/56	0.18 to 310,000	1.8 to 136,000	11,556	10,318	310,000
Herbicides (ug/kg)						
2,4,5-TP (Silvex)	37/54	0.027 to 82	1.05 to 36.5	6.6	5.5	82
2,4,5-T	42/54	0.34 to 3,100	1.3 to 14	142	111	3,100
2,4-D	33/54	0.34 to 520	0.72 to 90	61.8	40	520
2,4-DB	38/54	2.7 to 10,550*	16 to 2,000	710	528	10,550
Dalapon	34/54	1.5 to 185*	26 to 440	17.6	24.4	185
Dicamba	44/54	0.63 to 240	1.35 to 14	22.3	18.7	240
Dichloroprop	36/54	1.2 to 330	5 to 145	54.6	41	330
Dinoseb	42/54	0.14 to 1,600	5.2 to 89	80.3	64.4	1,600
MCPA	36/54	40 to 4,600,000	105 to 2,200	149,866	100,023	4,600,000
MCPP	32/54	46 to 320,000	190 to 5,300	51,396	30,656	320,000
Inorganics (mg/kg)						
Aluminum	54/56	122 to 5,760	9.6 to 116	1,363	1,316	5,760
Antimony	4/56	0.63 to 21.3	0.36 to 8.6	6.1	0.82	21.3
Arsenic	31/56	0.5425* to 1,570	0.58 to 10	62	34.6	1,570
Barium	56/56	1.5 to 305	0.21 to 0.84	14	14	305
Beryllium	3/56	0.05 to 0.65	0.02 to 0.72	0.31	0.05	0.65
Cadmium	25/56	0.09 to 15.4	0.07 to 1.7	1.2	0.6	15.4
Calcium	56/56	128 to 235,000	11.9 to 30.8	21,734	21,734	235,000
Chromium	55/56	0.83 to 463	1.1 to 3.8	12.8	12.6	463
Cobalt	11/56	0.23 to 2	0.13 to 3.8	0.73	0.27	2
Copper	56/56	0.66 to 4,990	1.1 to 2.5	95.7	95.7	4,990
Iron	56/56	109 to 25,300	24.9 to 61.2	1,158	1,158	25,300
Lead	56/56	1.9 to 2,820	2.3 to 9.3	108	108	2,820
Magnesium	56/56	15.325* to 17,400	7.2 to 27	591	591	17,400
Manganese	56/56	0.945* to 152	0.2 to 0.48	17.3	17.3	152
Mercury	7/56	0.05 to 0.41	0.051 to 0.18	0.12	0.04	0.41
Nickel	39/56	0.32 to 14.4	0.43 to 5.5	2.5	1.9	14.4
Potassium	22/56	37.6 to 600	27.1 to 117	125	62.6	600
Selenium	2/56	0.505* to 1.2	0.6 to 9.2	0.85	0.8	1.2
Silver	8/56	0.15 to 1.2	0.09 to 2.5	0.49	0.18	1.2
Sodium	5/56	275* to 775	204 to 928	537	175	775
Vanadium	56/56	0.81 to 20.2	1.3 to 3.4	2.7	2.7	20.2
Zinc	56/56	0.99 to 1,100	0.61 to 1.3	52.2	52.2	1,100

APPENDIX C
SUMMARY OF DETECTIONS

Naval Air Station Jacksonville
Jacksonville, FL

Groundwater

Chemical	Frequency of Detects	Range of Detects	Reported Detection Limits	Average (Detects)	Average (All)	Maximum Detected
Volatile Organic Compounds (ug/kg)						
1,2-Dichloroethene (total)	1/3	6 to 6	10 to 10	6	5.3	6
Acetone	1/3	22 to 22	10 to 10	22	10.7	22
Benzene	1/3	2 to 2	10 to 10	2	4	2
Chlorobenzene	1/3	6 to 6	10 to 10	6	5.3	6
Ethylbenzene	1/3	7 to 7	10 to 10	7	5.7	7
Toluene	1/3	2 to 2	10 to 10	2	4	2
Trichloroethene	1/3	5 to 5	10 to 10	5	5	5
Xylene (total)	1/3	21 to 21	10 to 10	21	10.3	21
Semivolatile Organic Compounds (ug/kg)						
2,4,5-Trichlorophenol	1/3	8 to 8	0.2 to 25	8	11	8
2-Methylnaphthalene	1/3	40 to 40	0.05 to 10	40	16.7	40
4-Methylphenol	1/3	16 to 16	0.05 to 10	16	8.7	16
Acenaphthene	1/3	6 to 6	0.05 to 10	6	5.3	6
Naphthalene	1/3	7 to 7	0.05 to 10	7	5.7	7
Pesticides/PCBs (ug/kg)						
4,4'-DDD	3/3	0.1 to 18	0.1 to 0.1	8.1	8.1	18
4,4'-DDE	3/3	0.016 to 2.5	0.1 to 0.1	0.84	0.84	2.5
4,4'-DDT	2/3	0.15 to 9	0.1 to 0.1	4.6	3.1	9
Aldrin	1/3	0.68 to 0.68	0.05 to 0.05	0.68	0.24	0.68
Dieldrin	1/3	0.93 to 0.93	0.099 to 0.1	0.93	0.34	0.93
Endosulfan I	1/3	0.45 to 0.45	0.05 to 0.05	0.45	0.17	0.45
Endosulfan II	1/3	0.53 to 0.53	0.1 to 0.1	0.53	0.21	0.53
Endosulfan sulfate	1/3	0.024 to 0.024	0.099 to 0.1	0.02	0.04	0.02
Endrin	2/3	1.4 to 3.4	0.1 to 0.1	2.4	1.6	3.4
Endrin aldehyde	1/3	0.064 to 0.064	0.099 to 0.1	0.06	0.05	0.06
Endrin ketone	1/3	0.025 to 0.025	0.1 to 0.1	0.03	0.04	0.03
Heptachlor	1/3	1.1 to 1.1	0.05 to 0.05	1.1	0.38	1.1
Heptachlor epoxide	1/3	0.063 to 0.063	0.05 to 0.56	0.06	0.12	0.06
Methoxychlor	1/3	0.02 to 0.02	0.5 to 0.5	0.02	0.17	0.02
alpha-BHC	1/3	3.2 to 3.2	0.05 to 0.05	3.2	1.1	3.2
alpha-Chlordane	2/3	0.14 to 11	0.05 to 0.05	5.6	3.7	11
beta-BHC	1/3	3.8 to 3.8	0.05 to 0.05	3.8	1.3	3.8
delta-BHC	2/3	1.5 to 5.2	0.05 to 0.05	3.4	2.2	5.2
gamma-BHC (Lindane)	2/3	0.24 to 1.3	0.05 to 0.05	0.77	0.52	1.3
gamma-Chlordane	2/3	0.26 to 9	0.05 to 0.05	4.6	3.1	9
Herbicides (ug/kg)						
2,4,5-TP (Silvex)	3/3	0.0012 to 2.1	NA -10,000	0.73	0.73	2.1
2,4,5-T	3/3	0.009 to 0.51	NA -10,000	0.18	0.18	0.51
2,4-DB	1/3	2.3 to 2.3	0.075 to 25	2.3	5	2.3
Dalapon	2/3	1.5 to 3	0.15 to 0.15	2.3	1.5	3
Dicamba	3/3	0.06 to 91	NA -10,000	31.9	31.9	91
Dichloroprop	3/3	2.5 to 17	NA -10,000	7.4	7.4	17
Dinoseb	3/3	0.023 to 4.8	NA -10,000	1.6	1.6	4.8
MCPP	1/3	2,000 to 2,000	50 to 50	2,000	683	2,000
MCPP	1/3	6,800 to 6,800	60 to 60	6,800	2,287	6,800
Inorganics (mg/kg)						
Aluminum	2/3	200 to 1,260	4.5 to 283	730	534	1,260
Antimony	2/3	3 to 6.3	1.7 to 2.4	4.7	3.5	6.3
Arsenic	2/3	17.6 to 332	2.7 to 2.8	175	117	332
Barium	3/3	19.5 to 65.4	0.1 to 0.2	36.2	36.2	65.4
Cadmium	1/3	1 to 1	0.3 to 0.4	1	0.45	1

APPENDIX C
SUMMARY OF DETECTIONS

Naval Air Station Jacksonville
Jacksonville, FL

Groundwater

Chemical	Frequency of Detects	Range of Detects	Reported Detection Limits	Average (Detects)	Average (All)	Maximum Detected
Calcium	3/3	11,800 to 76,100	5.6 to 7.3	35,167	35,167	76,100
Chromium	2/3	1.7 to 2.5	0.8 to 0.9	2.1	1.6	2.5
Cobalt	1/3	0.75 to 0.75	0.6 to 3.1	0.75	1.2	0.75
Copper	2/3	4.8 to 10.2	0.6 to 3.6	7.5	5.6	10.2
Iron	3/3	469 to 18,700	11.7 to 14.5	7,076	7,076	18,700
Lead	2/3	2.3 to 3.8	1.1 to 2.2	3.1	2.4	3.8
Magnesium	3/3	791 to 4,450	3.4 to 6.4	2,487	2,487	4,450
Manganese	3/3	16.2 to 194	0.1 to 0.2	81.4	81.4	194
Mercury	1/3	0.11 to 0.11	0.1 to 0.1	0.11	0.07	0.11
Nickel	2/3	3.6 to 384	0.9 to 6.9	194	130	384
Potassium	3/3	536 to 1,750	20.4 to 27.7	1,092	1,092	1,750
Selenium	1/3	5.8 to 5.8	2.8 to 4.3	5.8	3.1	5.8
Silver	1/3	0.79 to 0.79	0.6 to 0.7	0.79	0.48	0.79
Sodium	2/3	2,190 to 3,080	220 to 2,870	2,635	2,235	3,080
Vanadium	2/3	3.9 to 8.8	0.6 to 0.8	6.4	4.4	8.8
Zinc	3/3	23.8 to 30.4	0.3 to 0.3	26.1	26.1	30.4

PSC 48
Site Name: Dry
Cleaners

NFRAP or Further Remedial Action Decision Report
Naval Air Station, Jacksonville, Florida
Checklist and Summary Sheet

Page 1 of 2

Date, August 24, 1999

Revision Number	Date Prepared	Results and Remarks
Draft	January 25, 1995	A recommendation relative to Remedial Response Decision System (RRDS) is not appropriate for Potential Source of Contamination (PSC) 48 at this time because it is currently undergoing remedial investigation and feasibility study (RI/FS) activities as part of Operable Unit (OU) 3.
1	December 29, 1995	USEPA and FDEP concurred that a recommendation relative to RRDS was not appropriate for PSC 48 at this time because it is currently undergoing interim removal actions and is part of OU 3 RI/FS activities.
2	August 24, 1999	Based on 1-year results from PSC 48 interim removal action (IRA), recommendation is for continuation of IRA. This attachment should be updated when the IRA is completed

PSC 48
Site Name Dry
Cleaners

**NFRAP or Further Remedial Action Decision Report
Naval Air Station, Jacksonville, Florida
Checklist and Summary Sheet**

Page 2 of 2
Date. August 24, 1999

1 RDS elements evaluated		Complete (Y/N)	Results and Remarks	
Review existing information		Y		
Regulatory authority evaluation		Y	Comprehensive Environmental Response, Compensation, and Liability Act Requirements apply to PSC 48.	
Previous action evaluation		Y	No further response action planned (NFRAP) cannot be recommended based on previous actions.	
Source of contamination evaluation		Y	Tetrachloroethene and its breakdown products are consistent with dry cleaning operations.	
Exposure pathway analyses		N	Not conducted because undergoing IRA.	
Data sufficiency evaluation		Y	Data sufficient to recommend continuation of the IRA.	
Risk analyses		N		
ARARs evaluation		N		
2. Remedial response data base status		Complete (Y/N)	Current (Y/N)	Date
Discovery and notification		Y	N	April 1994
Preliminary assessment		N	N	
Site inspection		N	N	
Expanded site inspection		N	N	
Remedial Investigation		N	Y	May 1999
Feasibility study		N	Y	May 1999
Remedial design and remedial action		N	N	
Removal action		N	Y	March 1998
Site closure		N	N	
Other investigations		Y	N	November 1994
3 RDS evaluation summary		<input type="checkbox"/> NFRAP	<input type="checkbox"/> SITE SCREENING	<input checked="" type="checkbox"/> FURTHER REMEDIAL ACTION
Additional data requirements		(Y/N)	Rationale and Remarks	
NFRAP decision		Y	Continue the IRA at PSC 48	
NFRAP proposed plan		N		

POTENTIAL SOURCE OF CONTAMINATION 48

NO FURTHER REMEDIAL ACTION PLANNED OR FURTHER REMEDIAL ACTION DECISION REPORT

In this report, the Remedial Response Decision System (RRDS) is applied to Potential Source of Contamination (PSC) 48, the Base Dry Cleaners, located at the Naval Air Station (NAS) Jacksonville. This No Further Response Action Planned (NFRAP) or Further Remedial Action Decision Report is an attachment to Appendix D to Volume 2 of the Naval Installation Restoration Program (NIRP) Plan.

This attachment follows RRDS as described in Volume 2 of the NIRP Plan and is divided into the following 10 chapters:

- 1.0 PSC Background
- 2.0 Regulatory Authority Evaluation
- 3.0 Previous Action Evaluation
- 4.0 Contaminant Source Evaluation
- 5.0 Exposure Pathway Analyses
- 6.0 Data Sufficiency Evaluation
- 7.0 Risk Analyses
- 8.0 Applicable or Relevant and Appropriate Requirements (ARARs) Evaluation
- 9.0 Recommendation
- 10.0 References

1.0 PSC BACKGROUND

This chapter discusses the available background information for PSC 48, the Station's Dry Cleaners. The discussion is divided into four sections: 1.1, PSC Information and History; 1.2, PSC Description and Environmental Setting; 1.3, Previous Regulatory Review; and 1.4, Data Assessment. The background information was obtained during a records search by Harding Lawson Associates (HLA). The record search included a review of documents, memoranda, and maps on file at HLA.

1.1 PSC INFORMATION AND HISTORY. The Station's Dry Cleaners was identified as a PSC during the Operable Unit (OU) 3 scoping study field program (SSFP) in 1993 (ABB Environmental Services, Inc., 1995). During the SSFP, groundwater samples were collected throughout OU 3 using direct push technology (DPT) sampling techniques. Samples collected upgradient of OU 3 in the vicinity of the Dry Cleaners contained concentrations of total chlorinated volatile organic compounds (VOCs) ranging from 3.7 to 19,200 micrograms per liter ($\mu\text{g}/\text{L}$). The VOCs detected, primarily tetrachloroethene (PCE) and its breakdown products, were found in shallow groundwater (approximately 11 feet below ground) above a confining clay layer. The SSFP report indicated that the Dry Cleaners was a possible source of the upgradient groundwater contaminants. The results of the SSFP were summarized in the Remedial Investigation/ Feasibility Study Workplan for OU 3 (ABB-ES, 1995a).

Building 106 has housed the Dry Cleaners since it began operation in 1962. From 1962 to 1990, the dry cleaning operation consisted of two machines, one to dry clean and one to dry after dry cleaning (Watson, 1995). During that time, PCE, was stored next to the machines in a 150-gallon tank. The dry cleaning operation used approximately 150 gallons of PCE per month so additional PCE was poured into the tank on a regular basis (which probably resulted in spills).

In 1990, the old machines were replaced with a single machine that dry cleans and dries (called a dry to dry process). Currently, the dry cleaner purchases one 55-gallon drum of PCE at a time. The drum is emptied directly into a storage compartment within the machine. Because of the construction of the new machines, spills are less likely and precautions are taken to prevent them. Waste PCE is staged in a 55-gallon drum by the machine for offsite transport.

An engineering evaluation and cost analysis (EE/CA) was conducted at PSC 48 and Building 780, two areas within OU 3 with high concentrations of chlorinated VOCs in groundwater (ABB-ES, 1995b). Focussed investigation activities to support the EE/CA at PSC 48 (conducted in November 1994) consisted of vapor extraction tests, air injection tests, and groundwater pumping tests. One groundwater extraction and air injection well, one vapor extraction well, four piezometers, and five observation probes were installed on the east side of Building 106 during the focussed investigation activities.

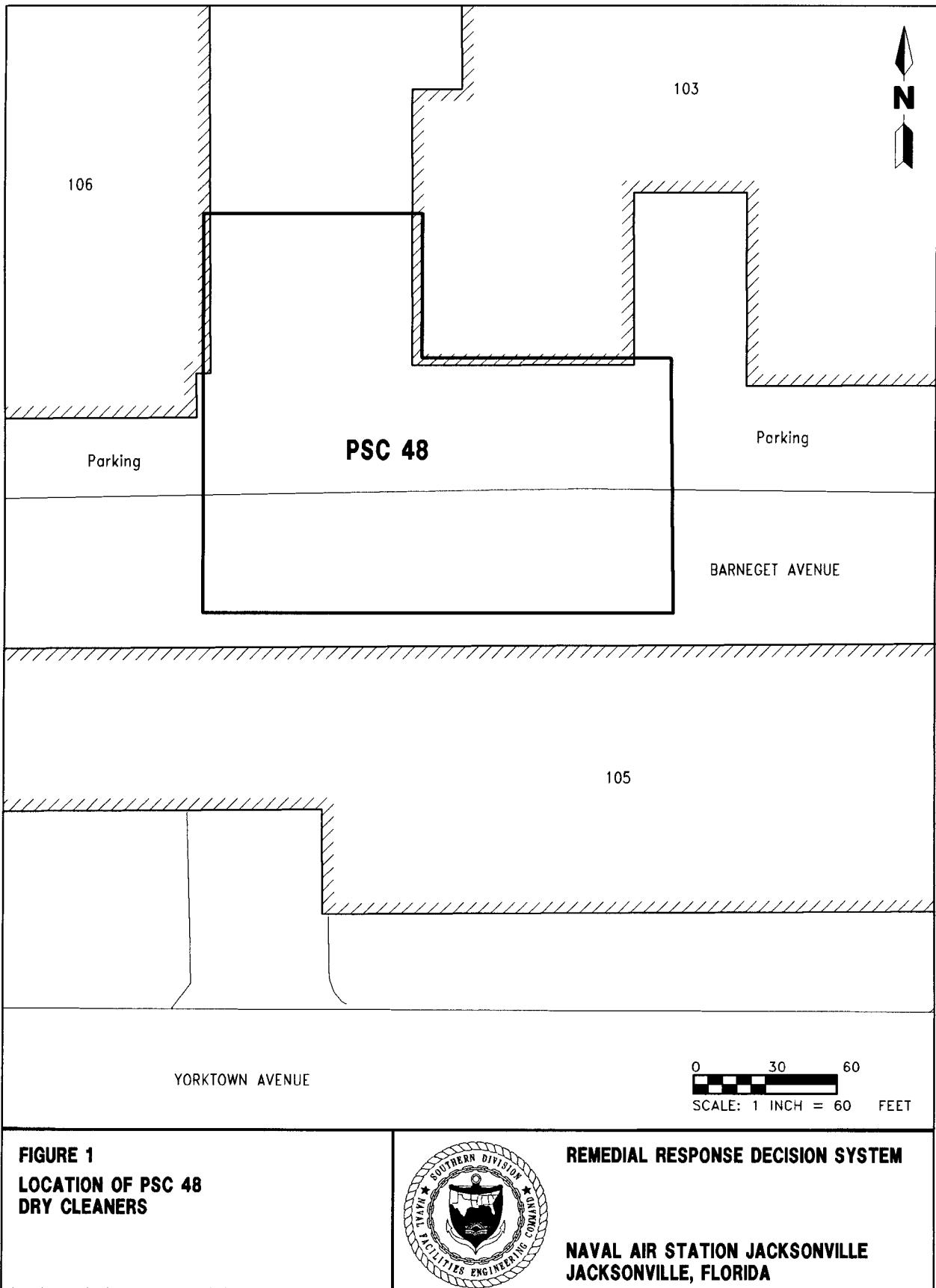
A groundwater sample collected from the groundwater extraction well was analyzed for VOCs, laboratory microbial activity, and selected other chemical parameters. Analytical results indicated that the groundwater sample contained 51,000 $\mu\text{g/l}$ total chlorinated VOCs. Based on the results of the EE/CA, air sparging and vapor extraction were the recommended interim removal actions (IRA) at PSC 48. In addition, further monitoring and sampling was recommended (ABB-ES, 1995b).

During the 1996 engineering evaluation field program a monitoring well was installed immediately downgradient of PSC 48 (near the westside of Building 103) and below the confining clay layer to determine if chlorinated VOCs were present in the intermediate depth groundwater. The data indicates that chlorinated VOCs were present and suggests that it may be coming from the dry cleaners (ABB-ES, 1998).

The IRA recommended in the EE/CA for the shallow groundwater was designed and constructed. Startup operations for the air sparging and vapor extraction systems took place in March 1998. Monitoring of the systems on a periodic basis continued for 1 year. Based on the monitoring data it was determined that the air sparging and vapor extraction systems have been successful in removing chlorinated VOCs from the groundwater and the vadose zone. It is estimated that approximately 199 pounds of total chlorinated ethenes have been removed during the first year of operation (HLA, 1999a). Furthermore, HLAs Operation Report for Building 106 recommends that the IRA continue for at least 1 more year and estimates that it could take 34 to 50 months of operation (following the initial startup) to remove chlorinated VOCs from the groundwater.

1.2 PSC DESCRIPTION AND ENVIRONMENTAL SETTING. The Station's Dry Cleaners is located in Building 106 in the northwest corner of OU 3, west of the Naval Aviation Depot. OU 3 occupies 134 acres in the northeast part of NAS Jacksonville and is bounded on the south and east by the St. Johns River. The OU is approximately 5,000 feet east of U.S. Highway 17, which serves as the western boundary to NAS Jacksonville. The NAS Jacksonville taxiways and flightlines are due north of OU 3.

PSC 48 encompasses Building 106 and the asphalt paved parking lot adjacent to the east side of Building 106 (Figure 1). The NAS Jacksonville main fire station (Building 105, is just south of the Dry Cleaners and an office building (Building 103) is across the parking lot to the east.



PSC 48 is in the drainage basin of the St. John River which is located approximately 0.4 of a mile to the east of the PSC. Groundwater modeling of OU 3 by the U.S. Geological Survey indicates that shallow groundwater flows east to slightly northeast in the vicinity of PSC 48. Groundwater flow direction is influenced, in part, in that area by the storm sewer along Albemarle Avenue. Shallow groundwater near the sewer tends to be intercepted due to leaking joints in the sewer (HLA, 1999b).

Based on the results of the SSFP and the EE/CA, PSC 48 is underlain to a depth of approximately 15 feet by fine to medium sand, which is underlain by an approximate 10-foot thick clay layer. Depth to the groundwater table is approximately 4 feet below land surface. Further information on the geologic, hydrologic, and hydrogeologic conditions at PSC 48, and at OU 3 as a whole, is contained in the RI/FS Workplan for OU 3 (ABB-ES, 1995). Regional information pertaining to NAS Jacksonville (such as geography, demographics, physiography, climate, soils, geology, and hydrology) is also contained in the RI/FS Workplan for OU 3 (ABB-ES, 1995).

1.3 PREVIOUS REGULATORY REVIEW. Both the Florida Department of Environmental Protection (FDEP) and Region IV of the U.S. Environmental Protection Agency (USEPA) have approved the inclusion of PSC 48 in OU 3.

The draft revision of this attachment to Appendix D (January 25, 1995) indicated that a recommendation relative to RRDS was not yet appropriate because PSC 48 was currently undergoing the RI/FS process as part of OU 3. The draft revision recommended that the attachment be updated to reflect the results of the RI/FS, when available. The following comment was received on this recommendation:

FDEP, Jorge R. Caspary, Remedial Project Manager, April 24, 1995: concurred that PSC 48 does not need to go through the full scope RRDS, since the PSC is undergoing a RI/FS as part of OU 3.

1.4 DATA ASSESSMENT. The following is a summary of the data currently available regarding PSC 48. The sufficiency of these data to conduct risk analysis in support of a remedial response decision will be evaluated in Chapter 6.0.

- The dry cleaners started operation in 1962 and used approximately 150 gallons of PCE per month until 1990.
- From 1962 to 1990 the PCE was stored in a 150-gallon tank located next to the dry cleaning machine. Since 1990 the PCE has been placed directly into redesigned machines which use significantly less PCE for dry cleaning.
- During a 1993 field investigation 19,200 $\mu\text{g}/\ell$ of chlorinated VOCs, primarily PCE and its breakdown products, was found in the shallow groundwater above a clay confining layer.
- During the 1994 EE/CA field investigation, 51,000 $\mu\text{g}/\ell$ of chlorinated VOCs were detected in the groundwater closer to the dry cleaners.
- The EE/CA recommended air sparging and vapor extraction systems as an IRA. The IRA was implemented in March 1998.

- Following 1 year of operation it was determined that the IRA was effective at removing chlorinated VOCs from the groundwater and associated vadose zone.

2.0 REGULATORY AUTHORITY EVALUATION

This chapter evaluates the applicability of regulatory requirements to response actions at the PSC to ensure that PSC-specific remedial responses met applicable regulatory requirements. The evaluation is divided into two sections: 2.1, Existing Regulatory Agreements and 2.2, Regulatory Authority Evaluation.

2.1 EXISTING REGULATORY AGREEMENTS. In December 1989, NAS Jacksonville was placed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priority List, which requires remedial response consistent with the guidelines specified within Section 120 (42 U.S. Code 9620), Federal Facilities of the Superfund Amendments and Reauthorization Act (SARA) of 1986. On October 23, 1990, NAS Jacksonville entered into a Federal Facilities Agreement (FFA) with the USEPA and the FDER (since renamed the FDEP).

The FFA recognizes that the facility is subject to the terms of its hazardous waste permits and Resource Conservation and Recovery Act (RCRA) closure permits. The FFA integrates the Navy's response obligations into a comprehensive agreement that activities covered by the FFA will achieve compliance with CERCLA and satisfy the corrective action and closure permit requirements under RCRA. Therefore, ARARs must be considered and remedial measures must be consistent with and incorporated in RCRA permits.

PSCs at NAS Jacksonville fall under the regulatory authority of CERCLA, SARA, and corresponding State laws if a release of a hazardous substance has occurred or if there is a threat of such a release into the environment (Title 40 of the Code of Federal Regulations 300.130(b)(2)). Exclusion from CERCLA authority and the application of CERCLA regulations with respect to the threat posed by a PSC to human health and the environment are discussed in subsection 2.3.2 of Volume 2 of the NIRP Plan. The PSCs also fall under the regulatory authority of any existing RCRA permits for the facility.

2.2 REGULATORY AUTHORITY EVALUATION. PCE and its breakdown products, trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride (VC), have been detected at high concentrations in the groundwater and soil gas (vadose zone) at PSC 48. These compounds are hazardous substances as defined in CERCLA Section 101(14). PCE was probably released to the environment as a result of spills or leaks during dry cleaning operations at Building 106. Therefore, CERCLA requirements apply, and NFRAP cannot be recommended based on exclusion from CERCLA authority.

3.0 PREVIOUS ACTION EVALUATION

An IRA consisting of air sparging and vapor extraction is ongoing at PSC 48. Even though the first year's operations have been effective at removing chlorinated VOCs from the groundwater and vadose zone, significant amounts of VOCs still remain. Thus, NFRAP from PSC 48 cannot be recommended based on previous actions.

4.0 CONTAMINANT SOURCE EVALUATION

Contaminants identified at PSC 48, including PCE, TCE, DCE, and VC, are consistent with spills or leaks during drycleaning operations. PCE is the primary solvent used for cleaning of clothes and similar materials. As PCE is dechlorinated (breaks down) TCE, DCE, and VC are formed as the dechlorination process continues. These breakdown process can be accomplished under both aerobic and anaerobic conditions, thus, above and below the water table.

5.0 EXPOSURE PATHWAY ANALYSES

The exposure pathway analyses were, however, conducted for OU 3 as a whole during the RI/FS or OU 3 (HLA, 1999b). The pathways identified as part of RI would be applicable for PSC 48 since the media and contaminants of concern are the same.

6.0 DATA SUFFICIENCY EVALUATION

Groundwater and soil samples from PSC 48 were collected and analyzed during the SSFP, EE/CA, and IRA design and operation phases. The analytical results from these samples are sufficient to determine the need for continuation of the IRA. The VOC concentrations are high enough to indicate continued risk at the PSC.

7.0 RISK ANALYSES

A risk analysis was not conducted for PSC 48 since it is currently undergoing an IRA. However, the risk assessment done for the OU 3 RI has shown unacceptable human health risks for groundwater (in hot spots areas) but not for soils. It is anticipated that the same would hold true for PSC 48 since the media and contaminants are the same as in other highly impacted areas of OU 3. Similarly, the ecological risk assessment did not identify unacceptable risks on land at OU 3, primarily because the area is mostly paved and does not provide suitable habitat for potential ecological receptors (HLA, 1999b).

8.0 ARARS EVALUATION

An ARARs evaluation was not conducted for PSC 48 because the PSC is currently undergoing an IRA.

9.0 RECOMMENDATION

The IRA at PSC 48 should continue for at least 1 more year. When the IRA is complete, this attachment should be updated to reflect the new information and results of the removal program.

10.0 REFERENCES

- ABB Environmental Services, Inc. (ABB-ES), 1995a, Remedial Investigation/Feasibility Study Workplan and Project Management Plan for OU 3, Naval Air Station (NAS) Jacksonville, Jacksonville, Florida. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (March).
- ABB-ES, 1995b, Engineering Evaluation and Cost Analysis for Buildings 106 and 780 at OU 3, NAS Jacksonville, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (August).
- ABB-ES, 1998, Engineering Evaluation of Areas with Elevated Groundwater Contamination, Operation Unit 3, NAS Jacksonville, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (March).
- Lancaster, Diane, 1995, NAS Jacksonville Navy Exchange, NAS Jacksonville Facilities Department, Interview with Diane Lancaster, ABB-ES, Arlington, Virginia (January).
- Geraghty & Miller, Inc., 1991, Naval Installation Program Plan, NAS Jacksonville, Jacksonville, Florida, Volume 1, Organization and Plannings. Prepared for Southern Division, Naval Facilities Engineering Command, Charleston, South Carolina (September).
- Harding Lawson Associates (HLA), 1999a, Operations Report for Building 106, NAS Jacksonville, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (June).
- HLA, 1999b, Final Draft Remedial Investigation and Feasibility Study, Operable Unit 3, NAS Jacksonville, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (May).